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ANNUAL REPORT

OF THE

COMMISSIONER OF PATENTS

FOR

THE YEAR 1867.

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VOLUME II.

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# DESCRIPTIONS.

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# DESCRIPTIONS AND CLAIMS OF PATENTS

ISSUED IN THE YEAR 1867.

ILLUSTRATED WITH ENGRAVINGS.

## VOLUME II.

**66,203.**—PHILANDER BAKER, Chicago, Ill.—*Lamp Burner.*—July 2, 1867.—The wick tube is divided to prevent conduction of heat. The upper portion is attached to a section which carries the cone, and has a finely perforated floor to prevent passage downward of the flame, and is supported by a spiral wire coil upon the disk of the lower section. A hoop of spring steel encircles the lower end of the chimney, and is itself supported by spring arms.

*Claim.*—First, the combination and arrangement of the disk *e* and safety plate or diaphragm *h*, when connected at their perimeters by a spiral coil, or its equivalent, as described, with the two sections of the wick tube, arranged as specified with respect to each other, and the cone *i*, arranged and operating as and for the purposes set forth.

Second, in combination with the elastic arms *l*, the arrangement of the spring hoop *k*, constructed and applied so as to operate in the manner and for the purposes specified.

**66,204.**—LOUIS D. BARTLETT, Fitchburg, Mass., assignor to PUTNAM MACHINE COMPANY.—*Valve Gear for Steam Engines.*—July 2, 1867.—The lever which lifts the stem of the valve by revolution of the eccentric, is carried in or out by the action of the governor, so as to change the length of the stroke of the lever, and thus vary the cut-off. The supplementary cam brings the upper corner of the eccentric lever in noiseless contact with the sliding lever.

*Claim.*—Operating the valve of a steam engine by means of the lever *D*, actuated by the eccentric cam *E*, in combination with the lever *B*, substantially as described.

Also, in combination with the above the supplementary cam or toe *G*, operating substantially as described for the purpose set forth.

**66,205.**—GEORGE BEVITT, Madison, Wis., assignor to himself and JOHN GEORGE OTT, same place.—*Corn Sheller.*—July 2, 1867.—The toothed cylinder rotates in a shell having a series of pivoted slats, whose projections pass through the side of the box; the slats are engaged by a spring cord to press them toward the cylinder.

*Claim.*—First, the cylinder *B*, provided with the oblong inclined teeth *D*, constructed substantially as described.

Second, in combination with the cylinder, the concave slats *E*, when arranged to operate in connection therewith, substantially as described.

Third, providing the cone *E* with the spring *F*, as and for the purpose set forth.

**66,206.**—JOSEPH R. BOWERS, Concord, N. H.—*Drying Bricks.*—July 2, 1867.—The steam or hot air is passed through a series of pipes imbedded in the floor of the drying ground, about three inches below the surface of the soil.

*Claim.*—The application of artificial heat by means of steam or hot-air pipes, when such pipes pass beneath the surface of the drying ground, and are constructed as described for the purpose of drying bricks.

**66,207.**—E. W. BRANCH, East Henrietta, N. Y.—*Cider Mill.*—July 2, 1867.—The apples are pressed to the toothed disk by a spring board, which gives way to allow passage to small stones. This disk is

on the fly-wheel, which is so connected to the driving wheel that it may continue to run after sudden stoppage of the latter.

*Claim.*—The combination and arrangement of the spring board *K* and adjustable bed *I* with the grinding apparatus, consisting of the disk *E* fitting in the rim *h* of the wheel *C*, which is driven by jointed pawl *D*, the whole constructed as described and operating in the manner and for the purpose set forth.

**66,208.**—WILLIAM D. BROOKS, Baltimore, Md.—*Preserving Fruits and other Perishable Articles.*—July 2, 1867.—Explained by the claims and illustration.

*Claim.*—First, filling cans or other vessels containing fresh fruits or other perishable articles, with hot sirup or other fluids by means of a supply tube, delivering the same under pressure at or near the bottom of the can, substantially in the manner and for the purpose herein set forth.

Second, the use of steam in the process of preserving fruits and other perishable articles, when delivered into the vessels containing the same, substantially in the manner and for the purpose set forth.

Third, the combination of a steam or hot-air space *D* with a reservoir *C*, to encircle the same and maintain its contents in a heated state, when said supply pipe is arranged to operate substantially in the manner and for the purpose herein set forth.

**66,209.**—C. D. BROWN, Tampico, Ill.—*Hedge Fastener.*—July 2, 1867.—An inverted trough is drawn over and along the row of plants, bending them down; in this position they are fastened by cross-bars staked to the ground.

*Claim.*—The method herein described of holding down young plants for the purpose of producing strong and thickly-set hedges.

**66,210.**—C. D. BROWN, Tampico, Ill.—*Device for Bending Down Plants to form Hedges.*—July 2, 1867.—The trough has a flaring mouth to gather in the errant limbs and bring them all into a compact line to be secured by bars and stakes until they have permanently assumed their new position.

*Claim.*—The use of a tapering trough constructed substantially as described, for the purpose of bending down hedges.

**66,211.**—RUSSEL BRUSIE, Cleveland, Ohio.—*Apparatus for Gathering Apple Seeds.*—July 2, 1867.—The force of the water drives the apple pomace upon the blades, which cut it up and release the seeds; these sink by their superior gravity, while the pericarp floats off with the water.

*Claim.*—The construction of a box *A*, provided with the gates *B* *H* and *E*, in combination with the blades *L*, substantially as and for the purpose described.

**66,212.**—WILLIAM BURNET, New York, N. Y.—*Bottle Cap or Top.*—July 2, 1867.—The bottle top has projecting nipples of rubber, which may be decapitated to make an opening for the discharge of the contents.

*Claim.*—A bottle cap made of rubber or other suitable material, provided with one or more closed tubes,



all made and operating substantially as described, or their mechanical equivalents.

**66,213.**—WILLIAM BURNET, New York, N. Y.—*Top for Mucilage and Varnish Bottles.*—July 2, 1867.—The elastic cap provides a tight packing to the brush stem and mouth of the vessel.

*Claim.*—First, an elastic cover for gum and varnish bottles, so shaped that it will at the same time cover the mouth of the bottle, furnish a spring to allow end-wise motion to the brush, and return it to its normal position, and clasp the handle of the brush so that it may be moved up and down in the cap, and held at any desirable height.

Second, the combination of the above top, made of any suitable elastic material, with a brush for varnish and mucilage bottles, all made and operating substantially as described, or their equivalents.

**66,214.**—JACOB BUSSEY, Philadelphia, Pa.—*Shifting Bucket Propeller.*—July 2, 1867.—The buckets have a limited longitudinal motion when in a vertical position, and are turned to a horizontal position for their return.

*Claim.*—In combination with the pairs of hinged buckets, the shifting bar and slides, so that by means of a lever the propulsion may be forward or backward without stopping or reversing the engine or changing the direction of motion of the crank shaft, substantially as described.

**66,215.**—RICHARD CALROW, Mamaroneck, N. Y.—*Insulator Holder.*—July 2, 1867; antedated June 22, 1867.—The block into which the holder shank is screwed is covered with tin, whose seams are soldered to render it air-tight.

*Claim.*—The combination of the block *g*, metallic covering *c*, and the holder *A*, for the purposes set forth.

**66,216.**—ANDREW CARSON, Memphis, Tenn.—*Clapboard Gauge.*—July 2, 1867.—The arm is pivoted to a block adjustable in a groove of the graduated plate, and has a point for attachment to the studs of the building. The lugs on the graduated plate take under the edge of the board to support it in position.

*Claim.*—A clapboard gauge composed of the graduated plate *A*, jointed and sliding arm *F*, having projections *G* and *H* with point *J*, and adjusted upon and held to plate *A* by means of the thumb screw *D*, when all the parts are constructed to operate substantially as described and for the purpose set forth.

**66,217.**—E. C. CHEEK, Placerville, Cal.—*Miter Box.*—July 2, 1867.—The work lies on the bed against the stops, the middle one of which is adjustable. The saw is embraced by clips, which slip in vertical guides on the ends of the bar, which has a horizontal adjustment on the graduated segment.

*Claim.*—First, an adjustable miter box composed of a bed or frame *A*, to which are secured the swinging arm *B*, the permanent stops *H H*, and the movable stop *I*, all constructed and operating substantially as described and for the purpose set forth.

Second, the movable stop *I*, to hold the work close to the saw cut and on either side of the same, and operating substantially as set forth.

**66,218.**—JOHN CHILCOTT, Brooklyn, N. Y.—*Manufacture of Soap.*—July 2, 1867; antedated June 15, 1867.—Explained by the claim.

*Claim.*—The manufacture of soap from gelatine, either with or without grease, oil, or fatty matter, by first subjecting the gelatine to the action of a suitable degree of heat to render it saponifiable, and afterwards treating it with alkali, substantially as herein specified.

**66,219.**—NORMAN B. CLABAUGH, Jr., Frederick, Md.—*Churn.*—July 2, 1867.—The dasher has four radial wings, each having longitudinal bars, the central one transfixed by radial pins which extend nearly to the others on each side.

*Claim.*—The construction of a rotary churn dash of longitudinal parallel bars or wings *C C h*, applied to heads *D D'*, and provided with pins *p p*, applied substantially as and for the purposes described.

**66,220.**—HUGH H. CRAIGIE, New York, N. Y.—*Sink.*—July 2, 1867.—The edge of the ferrule beneath the opening is submerged in the water of the cup which has an overflow bend and a down-curved portion. The latter has a circumferential groove to which the lead pipe is attached by a ring.

*Claim.*—First, a trap for sinks, formed by the detachable cup *d* attached to the under side of the sink, in combination with the downward projecting ferrule or pipe *b*, as and for the purposes set forth.

Second, the bend *f* and trap *d*, in combination with the soft metal pipe *g* connected to the bend *f* by the ring *h*, and neck, substantially as and for the purposes set forth.

**66,221.**—JOHN M. CRAWFORD, Philadelphia, Pa.—*Bridle Bit.*—July 2, 1867.—One rein is connected to the bit ring and the other to the slotted cheek pieces; when the latter rein is pulled the rigid bit slides up the slots and is drawn into the corners of the mouth.

*Claim.*—First, the slotted cheek pieces *B B'*, either curved or straight, when attached to a bridle bit, substantially as and for the purposes set forth.

Second, making the cheek pieces capable of being reversed, by acting in combination with bit *A* and screws *C*, substantially as and for the purposes set forth.

Third, the combination and operation of the bit *A*, screws *C*, and cheek pieces *B*, with the cheek strap *F*, and reins *D* and *E*, substantially as and for the purposes set forth.

**66,222.**—ALBERT CUNNINGHAM and ALONZO SHARP, Salem, Ohio.—*Power Hammer.*—July 2, 1867.—The lug on the hammer shaft extends into the slot of the segment, which receives an oscillating motion from the crank and pitman. The length of the stroke is varied by moving the center of oscillation of the segment toward or from the said lug.

*Claim.*—First, the links *R S*, lever *R'*, and slotted segment *Q*, as arranged in combination with the lug *H*, for the purpose and in the manner as set forth.

Second, the adjustable collar *L O*, springs *M N*, in combination with the rod *K* and adjustable lug *H*, as and for the purpose herein described.

**66,223.**—JEREMIAH DARLING, Cincinnati, Ohio.—*Boiler Feeder.*—July 2, 1867.—The mouth of the water induction pipe is crescent-shaped so as to operate properly during the rolling of the vessel. When the water falls below the required level the steam passes up the pipe into a chamber, from whence, by the movement of a valve, it passes into another chamber connected with a steam whistle. The opposite movement of the valve admits the water to the chambers previously occupied by the steam, from whence it descends the pipe to the boiler. The exhaust steam from the engine passes into the cap of a vertical pipe, which cap is rotated by jets of steam issuing from V-shaped projections of its sides.

*Claim.*—First, the construction of the mouth *B* of the pipe *C*, when connected with and operating in a steam boiler, as herein described and for the purpose set forth.

Second, the arrangement of the rotating exhauster *R*, with its ducts *S* and *T*, when operated around the pipe *P*, in the tank *L*, as herein described, and for the purposes set forth.

Third, the arrangement and combination of the steam whistle *K*, with its reservoir *J*, and steam and water cells *I* and *F*, as herein described and for the purposes set forth.

Fourth, the arrangement of the pipe *C* with the boiler *A*, and cells *I* and *F* with the whistle *K*, as connected by pipe *U* and cell *L* with the exhauster *R*, all when combined and operating as herein described and for the purposes set forth.

**66,224.**—SAMUEL DAVIS, Kansas, Mo.—*Washing Machine.*—July 2, 1867.—The grated plunger has an annular ring above, and its stem is attached by a swivel joint to a post depending from the lever by which it is operated.

*Claim.*—The combination as well as the arrangement of the annular suction ring or board *O*, with the perforated or grated plunger *B*, and the application of the plunger to its working lever *C* by means of a



swivel connection in order to enable the plunger to revolve while in use, the whole being substantially as described.

**66,225.**—W. P. DICKINSON, D. S. WITMAN, and G. W. RABOLD, Reading, Pa.—*Hydrant*.—July 2, 1867.—The pressure of the water keeps the valve against its seat. The upper face of the valve has recesses for tallo. The orifice in the valve is brought in connection with the discharge pipe by rotation of the stem. For fire plugs, the valve is operated by a segment pinion lever.

*Claim.*—First, valve M, in combination with its lubricator recesses and holes, discharge hole *n*, constructed and arranged in the manner and for the purpose above described.

Second, the combination of valve M, lubricator recesses and holes *fff*, valve rod K, and key rod R, globe case A, and gooseneck D, constructed, arranged and operating together in the manner and for the purpose above described and set forth.

Third, the key rod R, combined with valve rod K, by means of a cogged lever and five-teeth pinion, as above described and for the purpose set forth.

**66,226.**—HENRY DEITZ, New York, N. Y.—*Stove for Carpenters' Use*.—July 2, 1867.—The soapstone bottom and sheet metal sides and top are united by angle iron and rivets.

*Claim.*—The construction of a carpenter's stove by the combination of angle irons and sheet iron, together with fire-brick or soapstone bottom lining, in the manner and for the purpose substantially as described.

**66,227.**—R. B. DONALDSON, Washington, D. C.—*Pressure Gauge for Gas Fitters*.—July 2, 1867.—The gauge is attached to a gas pipe, and has a chamber filled with mercury over a caoutchouc diaphragm, which, by its expansion, drives the mercury up the gauge tube.

*Claim.*—A gas fitter's pressure gauge, constructed by combining the base A, containing the reservoir *b*, elastic bottom *c*, and socket *a*, with the shank of the tube B, in the manner and for the purpose described.

**66,228.**—A. S. DOTTEE, Philadelphia, Pa.—*Car Seat*.—July 2, 1867.—A leaf is connected to the arm of the car seat, so that it can be folded down against said arm, or may be elevated to form a seat when the others are occupied.

*Claim.*—One or more leaves or plates attached to arms of a car seat, so as to be either folded and depressed or elevated and secured in a horizontal position, all substantially as and for the purpose described.

**66,229.**—JOHN FANNING, New York, N. Y.—*Drilling Apparatus*.—July 2, 1867.—The power is applied on the line of the axis of the drill, and the spur wheel on the latter is rotated by a planetary pinion, which is revolved by attachment to a crank on the end of the brace, the cogged rim against which the pinion works being held stationary. The object is increased speed of rotation of the drill.

*Claim.*—A drilling apparatus, constructed as described and shown.

**66,230.**—AMBROSE G. FELL, Brooklyn, N. Y., assignor to himself and WM. BELL, New York, N. Y.—*Water Indicator for Boilers*.—July 2, 1867.—Explained by the claim.

*Claim.*—The construction of a water indicator for steam generators having one or more sides of mica, substantially as and for the purpose herein set forth and described.

**66,231.**—ROBERT FIDLER, Taunton, Mass., assignor to himself and the DIGHTON FURNACE COMPANY, Dighton, Mass.—*Apparatus for Forming Sheet Metal Tubes*.—July 2, 1867.—The skelp tongs are used in the manufacture of welded iron tubing. The quadripartite dies are attached to the pair of jaws, one of which is attached to the bench, and the other moved by the lever.

*Claim.*—The above described apparatus for forming sheet metal tubes.

**66,232.**—CYRUS FISHER, Canton, Mass.—*Machine for Skeining Silk, Thread, &c.*—July 2, 1867.—The crank revolves the flyer to wind the skein about

hooks, one of which is adjustable to or from the other by means of a thumb rest when the skein is to be taken off. The hooks are revolved so as to coil the thread from the flyer around the middle of the skein. The case receives the skeins successively as made, without cutting the thread which connects them. The parts are adjustable for different lengths of skeins.

*Claim.*—The combination and arrangement of the thumb rest *r*<sup>2</sup>, with the next adjacent rotary hook and its puppet.

Also, the arrangement of the driving shaft K of the flyer with respect to the flyer shaft, and to the driving gear of the next adjacent rotary hook.

Also, the combination as well as the arrangement of the skein case F, with the flyer and the rotary hooks and mechanism for revolving them, as described.

**66,233.**—JAMES GILFILLAN, Charlestown, Mass.—*Water-closet Valve Apparatus*.—July 2, 1867.—The slow descent of the valve on its seat, insuring a sufficient flow of water, is effected by a flexible cup piston in the cylindrical vacuum chamber arranged over and opening into the valve case. A concavo-convex metallic spring receives and fits the flexible piston, expanding and contracting with the cup and preventing its inversion. The helical spring in the vacuum chamber reinstates the valve on its seat.

*Claim.*—The combination of the elastic metallic concavo-convex cap D with the flexible cup-shaped piston *d*, applied to the valve stem B and arranged within the vacuum chamber C, as and for the purpose specified.

Also, the arrangement of the spring E within the vacuum chamber, and with respect to the piston, as set forth.

**66,234.**—C. T. GRILLEY, New Haven, Conn., assignor to the GRILLEY COMPANY.—*Capping Pad Screws*.—July 2, 1867.—The blank head of the screw is capped and then a hole bored through diametrically.

*Claim.*—The method of drilling or perforating the screw head and cap blank, after the two have been united together, and at one operation, substantially as herein specified.

**66,235.**—O. HAWLEY and J. W. WARD, Wheeling, West Va.—*Churn*.—July 2, 1867.—The churn runs upon rollers in the framing; springs come in contact with projections on the churn to rotate it.

*Claim.*—The agitators F F F F; also the combination of the springs D, stops E, and balls C, operating in the manner and for the purpose described.

**66,236.**—GEORGE E. HERRICK, Lynn, Mass.—*Seed Planter*.—July 2, 1867.—The two perforated disks are pivoted on the same pin, between the hopper and the agitator. The disks are arranged one on the other so as to make openings of the required size, and are clamped in position one to the other and to the agitator. The perforations in each lead to the rear of the furrow opener.

*Claim.*—The combination and arrangement of the two perforated disks and their clamps with the hopper and the agitator of the said planting machine, the whole being substantially as described.

**66,237.**—EDWARD D. HOLMAN, Buffalo, N. Y.—*Fruit Jar*.—July 2, 1867.—The conical cap, with a ring of rubber beneath, rests on the lip of the jar and is held down by a spring bail whose ends clasp beneath a bead on the neck of the jar.

*Claim.*—The combination of the spring A with the conical cap B and rib D, when constructed substantially as and for the purposes described.

**66,238.**—DAVID HOWELL, Louisville, Ky.—*Nut Machine*.—July 2, 1867.—The heated bar is fed in at the side of the machine. The nut is cut off by the hollow punch and forced over the central punch to the concave-ended sleeve of the latter, against which it is pressed. The nut is then brought over the exit hole, the central punch retracted, and it is allowed to fall. The part punched from the center is discharged at the rear end of the hollow punch.

*Claim.*—In the described combination with the die H and punches F G and O, adjustable guide blocks J and M, for the purposes explained.



**66,239.**—IVORY A. HURD, Boston, Mass.—*Depth Gauge.*—July 2, 1867.—The spindle is adjusted to a given distance below the edge of the wing and is then used as a gauge of depth in holes or the thickness of a plate of metal on the planing machine, &c.

*Claim.*—The combination as well as the arrangement of the wing piece B B with the spindle A, check nut E, and collet D.

**66,240.**—JAMES JOHNSTON, Pemberton, Ohio.—*Combined Plow, Harrow, Cultivator, and Roller.*—July 2, 1867.—Explained by the claim and illustration.

*Claim.*—The rollers D and trucks E, or either of them, and the harrow frame C, adapted to receive harrow teeth, shovels, or cultivators, and to be lifted by the levers c, in combination with the axle and the adjusting washers e, the whole arranged and operating substantially as set forth.

**66,241.**—CASSIUS MACUMBER, Aurora, Ill.—*Machine for Draining Sugar.*—July 2, 1867.—The sirup is introduced on to a cone in the center of the rapidly-revolving plate and is thereby equally distributed. The fixed disk above keeps it from splashing upwards, and it passes to the screens. The inclined partitions between the screens expedite the discharge of the sirup. The obliquity of the beater equalizes the distribution of the sirup.

*Claim.*—First, constructing the revolving separator of a series of draft chambers, by means of the inclined partitions, substantially as described.

Second, the arrangement and combination of the revolving and fixed disks T T<sup>2</sup> and cone T<sup>5</sup>, for the purpose and in the manner substantially as described.

Third, placing the beaters obliquely on the revolving disk, for the purpose described.

**66,242.**—JOHN MOHN, Detroit, Mich.—*Railway Chair.*—July 2, 1867.—The chair has a lip which occupies notches in the rails at their junction, fishing them at this point. The supporting plate abuts upon the neck of the rail and is secured by key and screw bolt.

*Claim.*—First, a railway chair which is constructed with a solid portion a a, slotted base j, an elevated table K, and an abutting lip a' adapted for receiving the notched rail sections A A, a supporting and covering plate c c', and a key f, substantially as described.

Second, the mode herein described of securing the chair by means of the spikes i i, for the purpose set forth.

**66,243.**—CLARENCE MORFIT, Baltimore, Md.—*Condenser for Stills.*—July 2, 1867.—Two series of conduits are applied to the condenser, by one of which any or all the chambers may be made to connect with the still, and by the other series any one or all the chambers may be connected with a receiver. The distillates of different gravities may thus be returned to the still or separately removed.

*Claim.*—A condenser which is adapted for use in conjunction with a still, and which is divided into a number of chambers communicating with each other, and provided with two series of pipes or conduits, so arranged as to admit of the separation and condensation of the distillates and their return to the still, substantially as described.

**66,244.**—STEPHEN MOULTON, Hartford, Conn.—*Band Coupling.*—July 2, 1867.—One of the coupling ferrules contains a socket whose side is cut out to allow passage to a ball on the other ferrule, which is drawn forward by the tension of the belt to engage it in position.

*Claim.*—First, a ball and socket joint, having an aperture in the side of the socket for hooking in the ball, substantially as herein described.

Second, the application of a ball and socket joint, of the form and construction herein described, for the purpose of coupling of a band or cord, substantially as herein set forth.

**66,245.**—AMOS NEWELL, New York, N. Y.—*Revolving Harrow and Cultivator.*—July 2, 1867.—An octagonal roller is journaled to a frame pivoted to the axle. The roller is studded with spiral rows of harrow teeth, and rotated by gearing from the wheels.

*Claim.*—The combination and arrangement of the

spiked harrow, substantially in the manner and for the purposes described.

**66,246.**—JOSEPH NEWHAM, Kent, Ohio.—*Railway Rail Coupling.*—July 2 1867.—The fish bars are united by a transverse bar and vertical key so as to embrace the ends of the rails, but allow contraction and expansion.

*Claim.*—First, the combination of the bar block and washer with the ends of the rails and spike, substantially as and for the purpose set forth.

Second, securing the ends of railroad rails in position, substantially as and for the purpose set forth.

**66,247.**—WM. NOYES, Jr., Newburyport, Mass.—*Machine for Shaving Horn.*—July 2, 1867.—The butt of the horn is placed obliquely in contact with the cutters and is drawn between the same by the ratchet-notched feeders, which are reciprocated by rotating cams. The horn is cut into a single spiral strip from the butt to the point.

*Claim.*—A machine or combination consisting of a bed plate A, two cutters c c, two guide plates a a, and two feeders B C, such feeders being provided with springs g g and operative mechanism, substantially as described.

Also, the combination of the bed plate A, cutters c c, d d, guide plates a a, and the feeders B C, such feeders having springs g g g, arranged to operate with the bed plate guides and knives, substantially as specified.

Also, the feeding mechanism or combination composed of the two feeders B C, the cams i k, eccentrics o o, and connecting rods p p, arranged to operate as specified, such feeders having springs g g, as explained.

Also, the combination of the cooling tank or trough F with the machine composed, as described, of the bed plate A, its cutters c c, guide plates a a, and the feeders B C, having springs g g, and being provided with mechanism as explained, for advancing and retracting such feeders.

Also, the construction of the receiving end of the bed plate, viz: as oblique to the edges of the plate as set forth.

**66,248.**—J. O'KANE, New York, N. Y., assignor to EDWARD H. HOTCHKISS, Brooklyn, N. Y.—*Draw Plate.*—July 2, 1867; antedated June 20, 1867.—The slots in the steel draw-plate terminate in spherical holes. The metal passes through the slot, and the terminal hole curves a tubular border on its lower edge.

*Claim.*—The construction of a draw-plate, with a communicating slit r, arranged with reference to each hole, substantially as and for the purpose herein specified.

**66,249.**—NAT. PALMER, New Castle, Me.—*Window Washer.*—July 2, 1867.—To the end of the hose is attached an elastic bulb, from which proceeds a hollow staff, having a nozzle and sponge on the end.

*Claim.*—The combination of a hollow staff or tube with the bulb and tubing of a rubber syringe, a sponge or mop, and metal tube, in manner aforesaid.

**66,250.**—WILLIAM F. PATTERSON, Charlestown, Mass.—*Expanding Reamer.*—July 2, 1867.—The cutters are projected by the beveled piston, which is adjusted and secured by the nut and screw attached thereto.

*Claim.*—The combination of the shell A, piston B, cutters C, and springs D, all constructed and arranged substantially as and for the purpose set forth.

**66,251.**—HORATIO O. PERRY, Buffalo, N. Y., assignor to himself and JOHN D. SHEPARD, same place.—*Hoisting Machine for Vessels.*—July 2, 1867.—The line of shafting has gimbal joints to allow of deflection without binding in the journals. Rectangular or splined ends of the shafting slide in the gimbal heads to allow of extension. The barrel is attached to a friction pulley, which may be raised to a friction pulley on the shafting or depressed to a brake block.

*Claim.*—Forming a line of shafting in sections A D, connected by variable and extensible couplings B C, for use on shipboard, constructed, arranged, and operating substantially as set forth.

Also, in combination therewith the friction pulley



E, wheel F, lever J, and brake K, arranged and operating substantially as set forth.

**66,252.**—CHARLES H. PICKERING, Indianapolis, Ind.—*Potato Digger*.—July 2, 1867; antedated June 27, 1867.—The supplementary double-shovel plow removes the surface of the soil. The rear plow raising the potatoes deposits them on the screen bars, from which a rotating carrier removes them to the box in the rear.

*Claim.*—First, the double-shared plow G, with the slats *g* and side boards, as shown, in combination with rotary gatherer H, substantially as and for the purpose set forth.

Second, the scraper plow F, in combination with the double-shared plow G, substantially as and for the purpose set forth.

Third, the arrangement of the levers D for supporting and operating the wheels B, substantially as and for the purpose set forth.

Fourth, the slotted inclined plane O, for conveying the potatoes to the box L, in combination with the rotating carrier H, substantially as and for the purpose set forth.

**66,253.**—MATHIAS REDLINGER, Freeport, Ill.—*Corn Plow*.—July 2, 1867.—The plows are adjusted vertically by a lever engaged by rectangular notches on a segmental rack. The inner leading plows are moved transversely by a curved foot lever.

*Claim.*—The arrangement of the lever A with its roller E, connected to the beams G and the treadle C, as arranged with the plows B, when combined with the beams G, as herein described, and for the purposes set forth.

**66,254.**—JOHN RICHARDSON and FREDERICK H. STEVENS, New York, N. Y.—*Machine for Bundling Kindling Wood*.—July 2, 1867.—The machine receives the prepared wood and binds it into bundles for the market.

*Claim.*—First, the use of a tube having its end provided with a sharp edge, and having its interior slightly conical, for the purpose of receiving, shaping, and holding the bundle, substantially as described.

Second, the combination of the driving wheel E mounted on the tubular shaft F, with the arm H secured to the shaft G and the lever *d*, or its equivalent, arranged to trip the dog *c*, and to be operated by the wood carrier as the latter brings the wood to the bundling tube B, substantially as set forth.

Third, the wire clasp and twisting device, consisting of the mandrel M and the sliding rod *h*, provided with the lip *i*, or its equivalent, when arranged to operate as and for the purpose set forth.

Fourth, regulating the twisting of the wire and the shifting of the clutch by means of the disk R', operated by the mandrel and returned by the spring *l*, substantially as described.

Fifth, the combination of the mandrel M, lever gear O<sup>1</sup> O<sup>2</sup>, sliding clutch P, eccentric *u*, and arm P', arranged to operate as and for the purpose set forth.

Sixth, the combination of arm P', elbow lever Q, and disk R, arranged to be operated by cam R<sup>3</sup>, or its equivalent, in connection with the movement of shaft G for the purpose of moving the clutch P at the desired time, substantially as described.

Seventh, the tube *e*<sup>3</sup>, having its end arranged to operate in connection with the edge or lip of the recess in the end of the mandrel through which the wire is fed for cutting off the wire by a shear *ent*, as set forth.

Eighth, the wood carrier, consisting of the sliding box C<sup>2</sup>, mounted on the reciprocating plate C<sup>3</sup>, when arranged to operate substantially as described.

**66,255.**—DANIEL SAGER, New York, N. Y.—*Machine for Husking Corn*.—July 2, 1867.—The stalks are fed from above. The large grooves of the roller receive the stalks, and the ears being too large to enter are thrown into the shaking hopper, from whence they are carried to the husking rollers, which seize and tear off the husks as the ear rotates.

*Claim.*—First, the arrangement of the picker C, shaker E, endless apron F, husking rollers G G, and adjustable blades M M, essentially as described, for the purpose set forth.

Second, the shaker E, for delivering and directing the course of the ears, by motion communicated

through the eccentric L, or its equivalent, in the manner substantially as specified.

Third, the endless apron F, arranged in relation to the husking rollers G G, so as to carry the ears of corn thereto, and rotate them while husking, and afterwards to discharge them from the machine, essentially as described.

Fourth, the husking rollers G G, supported in bearings O O having elastic supports P P, substantially as and for the purpose set forth.

Fifth, the adjustable blades M M, essentially as and for the purpose specified.

**66,256.**—JOHN SCHATT, Philadelphia, Pa., assignor to himself and SAMUEL P. MERVINE, Jr., same place.—*Dry Gas Meter*.—July 2, 1867.—The bights of the leather folds enclose cords, and are covered by the curved edges of the metallic rings.

*Claim.*—Attaching the leather B and the ring A together by means of the single cord C, and the groove *a*<sup>11</sup> closed tightly over the said cord and leather, substantially in the manner described and for the purpose specified.

**66,257.**—MORITZ SCHNEIDER, Cleveland, Ohio.—*Paint Compound*.—July 2, 1867.—Composed of resin, 6 pounds dissolved in benzine, 1 gallon; 5 pounds china clay or lime; 5 pounds zinc pigment; 2 pounds linseed oil. Dryers and colors may be added.

*Claim.*—A paint composed of the ingredients herein named, and compounded in the manner substantially as herein set forth.

**66,258.**—GEORGE E. SELLERS, Sellers' Landing, Ill.—*Machine for Dressing Paper Pulp*.—July 2, 1867.—To cleanse the pulp of specks and knots the diluted pulp is passed into a screen in which the specks, by superior specific gravity, are collected into a receiver from whence they may be discharged. The knots too large for the meshes are delivered over the edge of the screen into an annular trough.

*Claim.*—First, the annular chamber B B through which the pulp is delivered into the chamber C. The chamber C and agitator Q, to collect the heavy particles into the center, over the receiver D, substantially as described and for the purposes specified.

Second, the pulp screen F with the slit or slits *s s s*, the agitator or float Q, to give direction to the pulp in the line of the slits, the pulp receiver J J, and regulating valve L, and the knot receiver M M, all substantially as described and for the purposes specified.

**66,259.**—JAMES B. SKINNER, Rockford, Ill.—*Plow*.—July 2, 1867.—The swinging rotating coulter is hung on upper and lower oscillatable bracket plates, and is vertically adjustable therein by washers placed on the spindle above or below the plates. A stop pin passed diametrically through the spindle limits its oscillation.

*Claim.*—First, adjusting the coulter, both vertically and laterally, substantially in the manner described.

Second, the combination of the coulter spindle with the bracket plate and socket, as shown in Fig. 1.

Third, the combination of the coulter spindle with the double bracket plates and stop pin, as shown in Fig. 2.

Fourth, the combination of the laterally adjustable bracket plate, spindle socket, and diagonal clamp, as shown in Fig. 3.

Fifth, the combination of the spindle, laterally adjustable bracket plates and clamp bolts, as shown in Fig. 4.

Sixth, the combination with the easter spindle of a series of locking washers, as shown in Fig. 5, for the purpose described.

**66,260.**—JAMES B. SKINNER, Rockford, Ill.—*Plow*.—July 2, 1867.—The shank of the rotating coulter is attached to the square end of a transverse pin beneath the beam, and is limited in oscillation by shoulders upon the pin.

*Claim.*—First, the combination of the easter yoke with the horizontal easter spindle, as shown in Fig. 1.

Second, the combination of the easter yoke with the horizontal easter spindle by pivoting the yoke on a vertical pin in the loop on the spindle, as shown in



Fig. 2, for the purpose of preventing wobbling of the colter, and yet leave it free to vibrate laterally.

Third, the combination of the easter yoko with the squared thimble turning on the fixed spindle projecting from the brackot plate, as shown in Fig. 3.

Fourth, the combination, substantially as described, with the horizontal easter spindle *o* of the double half-round boxes *p* suspended in the loops *p*<sup>1</sup> and a cross-bar *P*, for the purposes set forth.

**66,261.**—N. E. SMITH, East Cleveland, Ohio.—*Splicing Belting*.—July 2, 1867.—The ends of the belt are cut into tongues which are interlocked and glued.

*Claim.*—The herein described method of splicing belts, in the manner substantially as specified.

**66,262.**—A. D. STRONG, Ashtabula, Ohio.—*Cider Press*.—July 2, 1867.—The vibration of the levers acts by means of pawls upon the ratchet wheels to rotate the nuts and depress the screws which carry down the follower.

*Claim.*—The screws *K* and ratchet wheels *I* supported in the cross-pieces *B G* of the frame *A* and operated by means of the levers *M*, pawls *L*, and link *N*, all arranged and operating in the manner and for the purpose substantially as described.

**66,263.**—WM. H. SUTHERLAND, Seven Mile, Ohio.—*Extension Umbrella*.—July 2, 1867.—The stem is extensible by telescopic joints and the ribs are also extensible. A large umbrella may thus be contracted within a small space.

*Claim.*—First, the combination and arrangement of the extension stick and extension ribs, substantially as shown and described.

Second, the tongues *g g*, the grooves *j j*, the bands *l l*, the pins *t t*, the notches *s s*, and collars *u u*, as seen in Figs. 4 and 5, by which the sections of the stick are made to glide equally, and locked and unlocked and kept in position, all substantially as shown and described.

Third, the handle *b e e* with all its parts, as seen in Figs. 4 and 8, as described.

Fourth, the tablet *k* with its pin *m* and ledge *p*, in Fig. 6, the ferrule *q* with its slots *o o*, adapted to move around the runner *h h*, as seen in same Fig. and already described.

Fifth, the slot *o*<sup>1</sup> with its beveled edges *r r* in runner *h*, in Fig. 7.

Sixth, clasps 3, 4, and 5, as combined and arranged, of sections *A B* and *D*, as seen in Figs. 3 and 9, the tip *e*, the shoulders 8, and the center punch 6 with the cavity 7 for the reception of center punch 6.

Seventh, the wings 13 13 of clasps 4 adapted for attaching cover, as seen in Fig. 9.

Eighth, in combination with an umbrella stiek the sliding sections *A B* and *D*, substantially as described, by which the rib is shut up or distended.

**66,264.**—ABIJAH TAYLOR, Indianapolis, Ind.—*Propelling Vehicles*.—July 2, 1867.—The pulleys carrying the feet run on the upper and under sides of two parallel, longitudinal, horizontal sill rails and are actuated by an endless chain which passes over a chain-gear pulley at each end of the rails.

*Claim.*—Propelling mechanism consisting of an endless chain or chains, bands or ropes *E*, way or rails *A A*<sup>1</sup>, anti-friction pulley *I I*, and legs *G*, with feet, the said legs being carried by the chains, bands, or ropes, and the whole being arranged and operating substantially as and for the purpose set forth.

**66,265.**—H. H. TAYLOR and J. H. WILSON, Rochester, N. Y.—*Machine for Rolling Stench Trap Pipe*.—July 2, 1867.—The strip of lead or copper is bent into trough-like form and the S-shape by successive presentations. The smaller convex roller and concave roller make one bend and the larger convex and the same concave roller make the other bend.

*Claim.*—The method herein described of forming stench-trap pipes by the employment of the rollers *A B B*<sup>1</sup>, operating in such a manner as to swage the sides and edges of the pipe unequally so as to produce the necessary bends, as herein set forth.

**66,266.**—LEWIS C. TOWER, Rochester, N. Y.—*Thermometer*.—July 2, 1867.—The tube is sunk flush with the surface of the metal. The shield protects

the bulb and may be raised to expose the latter when it is to be immersed in a liquid.

*Claim.*—First, a thermometer whose frame is made from a single piece of sheet metal corrugated as described, to give it stiffness, and provided with a groove and socket to receive the tube and bulb, substantially as herein set forth.

Second, the combination of the sliding shield *d* with the frame *A* and bulb *a*, as and for the purpose specified.

**66,267.**—RUFUS TROWBRIDGE, Waterloo, Iowa.—*Shovel Plow*.—July 2, 1867.—The plate is glass and is let into a recess of the share, and its surface is flush with the same.

*Claim.*—The combination of a flat glass plate to the face of the share of shovel plows, substantially as specified.

**66,268.**—CHARLES L. TUCKER, Chicago Ill.—*Package for Holding and Shipping Lard*.—July 2, 1867.—A package of wood or paper is covered with an impervious composition or lining, and is covered with foil and inclosed with similar packages in tight cases.

*Claim.*—First, the box herein described when constructed without a lid or cover rim, and with straight even sides from top to bottom, substantially as and for the purposes specified.

Second, the application of gum arabic or its equivalent to small lard packages, either to wood or paper, for the purpose of making them non-absorbing, substantially as specified.

Third, the application or use of a tin or lead foil or foil paper covering for lard packages, constructed of wood or paper, substantially as and for the purposes specified.

Fourth, the mode herein described of packing lard for transportation by first packing the lard in separate small packages of wood or paper, and inclosing such small packages in an outer close-fitting case, substantially as and for the purposes specified.

**66,269.**—U. TURNER, Versailles, Ky.—*Counting Machine*.—July 2, 1867.—To facilitate addition of numbers the tens are noted on the machine as fast as they accrue so that they may be dropped from the mental calculation, being registered on the dial by the action of the feed finger.

*Claim.*—First, the wheel *B* with its spring coil *C* and dial *D*, in combination with the feed-finger *E* and detent *G*, substantially as and for the purpose described.

Second, the feed-finger *E*, spring *F*, detent *G*, wheel *B* and coil *C*, for reversing the dial *D* and resetting it at zero, and without changing the position of the instrument, or of the hand that holds it, substantially as herein shown and described.

**66,270.**—THEODORE A. WEBER, New York, N. Y.—*Bottle Stopper*.—July 2, 1867.—The annular cap is reinforced by a ring and beneath it is an elastic perforated diaphragm which yields to the forcible entry of a liquid, but closes against the edge of the funnel when the force is withdrawn. The cap is held down by a yoke.

*Claim.*—First, the combination of the cap *a* and elastic diaphragm *b*, the latter being perforated and applied to said cap, substantially as and for the purposes described.

Second, the combination of a perforated cap *a a*, perforated diaphragm *b*, and a ring *e*, when adapted for being held down tight upon a bottle, substantially as described.

Third, the cap *a*, diaphragm *b*, with or without ring *e*, stirrup *h*, an eccentric *m*, all combined and adapted to serve the purpose explained.

**66,271.**—CARLYLE WHIPPLE, Detroit, Mich.—*Saw Mill*.—July 2, 1867.—The curved guides give a rocking longitudinal motion to the saw.

*Claim.*—The curved guides *F* and *G* when the curvature of the upper is the reverse of the lower, arranged in relation to the saw and operating substantially as and for the purpose specified.

**66,272.**—F. D. WRIGHT, Jordan, N. Y.—*Fly and Mosquito Bar for Windows*.—July 2, 1867.—The



screen is attached to the lower bar of the lever and by a cord passing over a pulley to the upper bar of the same sash. The upward movement of the sash unrolls the screen which protects the opening thus made.

*Claim.*—The combination with the sash of a window of the automatic fly and mosquito bar, made up of the screen D, roller C, and cord E, arranged and operating in the manner and for the purpose herein set forth.

**66,273.**—A. C. WURZBACH, Memphis, Tenn., and WILLIAM WURZBACH, New York, N. Y.—*Spring Clasp.*—July 2, 1867; antedated June 22, 1867.—The middle portion of one leaf forms a spring and has a down-turned lip which engages one or another of the notches on the other lip, according to the fullness of the book.

*Claim.*—An adjustable clasp, when constructed and operated substantially as herein described.

**66,274.**—THEODOR A. ZELLERS, East Birmingham, Pa.—*Manufacture of Glass.*—July 2, 1867.—The cylinder is run in on the concave-topped truck, which rests on a turntable. The cylinder is removed by a cropper to the flat-topped truck and flattened out. It is then run back into the tempering oven. The ovens are heated by hydrocarbon oil which is burned over water, and air is furnished through a series of tubes whose exit is above the oil surface.

*Claim.*—First, treating glass cylinders in a flattening oven, and reducing them to flat sheets, by the heat evolved from the combustion of hydrocarbon oils, or their products or compounds, substantially in the manner and for the purpose hereinbefore set forth.

Second, in connection with an oven for flattening glass, the car *b*, and turntable *c*, or a raised vibratory platform in lieu thereof, for the purpose of so turning glass cylinders as to enable the operator, standing in front of the flattening car, to insert his cropper in such cylinders, in a line with the axis of each such cylinder, substantially in the manner and for the purposes above set forth.

**66,275.**—O. M. ALGER, Richmond, Vt.—*Washing Machine.*—July 2, 1867.—The clothes are squeezed between the corrugated lid and the ribbed floor of the box; through holes in the latter the water passes to and fro.

*Claim.*—The arrangement of the box A with ribs and perforations, and the ribbed and hinged lid, operating substantially as described.

**66,276.**—CHARLES ALLEN, Petersburg, Ill.—*Hanging and Ventilating Window Sash.*—July 2, 1867.—The sashes balance each other, being attached to the opposite ends of a cord which passes over a sheave; and the cord is adjustable in length by a screw bolt to whose socket one end is attached.

*Claim.*—The tightener *b b'*, when applied to the cord *a* of the sashes A B, substantially as described and set forth.

Also, the ventilating piece C', applied to the frame C, in combination with the self-balancing sashes A B, and cord tightener *b b'*, substantially in the manner and for the purpose set forth.

**66,277.**—JOHN H. AMES, New York, N. Y.—*Machine for Preparing Peat for Fuel.*—July 2, 1867.—The peat is carried by an endless apron from the hopper, beneath a rotating rake which throws out sticks, and it then falls into a second hopper containing the rotary mixers, and from thence between fluted pressure rollers to cylinders through whose perforated bottoms it is forced by plungers into the chambers beneath. In every stage so far hot air has been blown into the mass. At the bottom of the chamber is a cylindrical block with a cavity open through one side, into which the peat falls, and by whose rotation it is dropped into a receiver from which the air is exhausted. After undergoing hard pressure by a series of plungers, it is ejected.

*Claim.*—First, the revolving separator *c*, in combination with the hopper *a*, conveying belt *b*, and receptacle *d*, for the purposes and as specified.

Second, the compressing and mixing rollers *h h'*, to one of which an end motion is given, in combination with a hopper *g*, to which heated air is admitted, for the purposes and as set forth.

Third, drying peat by means of heated air, within a chamber in which the peat descends in thin sheets, strips or pieces, substantially as set forth.

Fourth, the charger *o*, separating the hot air and exhaust chambers, and delivering the peat into the latter, as set forth.

Fifth, the chamber *p*, and plunger *p'*, in combination with the revolving press block 16, and an exhausting apparatus, substantially as set forth, for producing a partial vacuum in the chamber containing said peat before said peat is pressed, for the purposes and as set forth.

Sixth, a revolving press block with tapering openings for receiving the peat and holding the cake after being pressed, as and for the purposes set forth.

**66,278.**—JOSEPH K. ANDREWS, Antrim, Ohio, assignor to himself and J. C. TILTON, Pittsburg, Pa.—*Lamp.*—July 2, 1867.—Improvement on his patent of July 11, 1865, and November 13, 1866. Gas is generated by the contact of the tube with the lower wick, and at the point of ignition the flame is aided by oil conducted through a supplementary wick and tube. The gas-generating tube, with its cone, cap, and inclosing cylinder, are hinged to the floor of the burner, which is raised by its wick tube above the screw cap of the lamp.

*Claim.*—The gas tube M, perforated, slotted, projecting above the cap N, cut at the lower end and constructed as shown in figure 2 of the accompanying drawing.

Second, the adoption of the tube or tubes O, burning the oil direct in combination with the gas, constructed and operating substantially as and for the purpose set forth.

**66,279.**—H. A. ARCHEREAU, Paris, France, assignor to himself and J. M. O. CAMIN DESPALLES, JOSEPH DE SUSINI, and E. O. STERN.—*Preparing Oxygen and Applying the Same to Useful Purposes.*—July 2, 1867.—The fire-clay cupola of the decomposing apparatus is enclosed in a leaden shell. Air and combustible gas are conveyed to the blow-pipes which heat the bars in the cupola, the heated bars subsequently decomposing the acid, which is introduced through a funnel. The top of the cupola is closed by a water luting. The fumes are conveyed to a condenser, where the diluted acid collects at the bottom; the oxygen and sulphurous acid pass to the washer, where the latter is absorbed, the former liberated and subsequently compressed into metallic cylinders.

*Claim.*—First, the process of decomposing sulphuric acid at its various degrees as found in trade, for obtaining oxygen therefrom, substantially as described.

Second, the hereinabove described and represented apparatus, and specially the apparatus for decomposing sulphuric acid, whatever may be the mode of heating employed.

Third, the compressing process for the better utilization of oxygen gas.

Fourth, the application or utilization of oxygen to all purposes, especially to metallurgic operations and to producing excessive high temperatures, allowing of the most refractory bodies being melted without melting their containing capacities.

Fifth, the process for melting iron without carbureting or production of cast iron, in the manner and for the purposes hereinabove specified.

**66,280.**—EDWARD JOHN ARENS, Boston, Mass.—*Cutter for Planing Moldings.*—July 2, 1867.—Instead of making the opposite sides of the cutter of parallel plain surfaces its cutting edge and body have lateral corrugations, those of the body being extended back from the edge.

*Claim.*—A molding cutter whose cutting edges for each member consist of diagonal faces meeting at the angle or ridge on the face of the cutter relatively to the form or contour of the molding, substantially as described.

**66,281.**—JAMES BAIN, Brooklyn, N. Y.—*Vent Plug.*—July 2, 1867.—The vent plug has a valve which is adjustable by a screw rod and spring, and is fitted into a seat in the inner end of the plug. When the outer atmospheric pressure exceeds that in the barrel, plus the power of the spring, air is admitted through the perforated plug.

*Claim.*—First, the valve C, nut *a*, and spring *b*, in



combination with the seat B, in the inner end of the plug A, substantially as and for the purpose described.

Second, the movable seat B, in combination with the valve C, nut *a*, spring *b*, and plug A, substantially as and for the purpose set forth.

Third, the air chamber D, and cup E, in combination with the plug A and valve C, constructed and operating substantially as and for the purpose described.

**66,282.**—WILLIAM D. BAKER, Marshfield, Mass.—*Windlass and Chain Stopper*.—July 2, 1867.—The cable has a single turn around each of a plurality of drums, each of which has a brake.

*Claim.*—A ship's windlass or chain stopper, or both, composed of a plurality of shafts A, provided with drums C, and pulleys E, with metallic straps F applied to them, and all connected at one end to a single shaft G, substantially as shown and described.

**66,283.**—L. M. BATTY, Canton, Ohio.—*Railroad Switch*.—July 2, 1867; antedated June 12, 1867.—The connecting rod is pivoted to the switch lever, which turns on a pin of the post attached to the sleeper. A catch plate, adjustable on the connecting rod, has recesses to receive the end of the treadle bar and fix the switch to the required position.

*Claim.*—First, the combination of the lever C, the post B, the connecting rod D, and the treadle E, in the manner and for the purpose herein described.

Second, the adjustable plate F, with its lugs *b* and notch *a*, when combined with the treadle E and connecting rod D, in the manner and for the purpose herein described.

Third, the treadle E, when combined with the several devices H I J K *e* and *f*, in the manner and for the purposes herein set forth.

Fourth, the casing M, surrounding the outer part of the treadle D, to protect the treadle and devices H I J K *e* and *f*, from injury, as and for the purposes herein set forth.

**66,284.**—HENRY F. BEMENDEFER and GEORGE SMITH, Attica, Ohio.—*Plow*.—July 2, 1867.—The notched bar and spring catch allow oscillation of the plow standards.

*Claim.*—First, the bar D, spring catch *e*, and spring *g*, when used for shifting the standards, substantially as specified.

Second, the arrangement of the beam A, bars *d f*, standards, B B B', with their plows and the roller *b*, when constructed, arranged, and used in the manner substantially as set forth.

**66,285.**—H. W. BENTON, Lebanon, N. H.—*Ladle for Pouring Metal*.—July 2, 1867.—The lunate-shaped plate is pivoted to the kettle top and keeps back impurities floating on the metal.

*Claim.*—The combination with a ladle of a guard or skimmer, substantially as and for the purpose described.

**66,286.**—BENJAMIN BEST, Dayton, Ohio, assignor to himself and LOUDON MARTS, same place.—*Scaffold*.—July 2, 1867.—The uprights have base supports and braces at their lower ends. The platform is connected to sliding frames which are raised by ropes passing over sheaves at the tops of the uprights and wound by windlasses attached to the frames.

*Claim.*—First, the combination of the uprights A A', pivoted and adjustable braces *b C*, pivoted sliding and supporting frame B F G H, friction rollers *n*, clip *d*, with its appendages, pivoted spring catch *i*, hinged planks I, pulleys E, and cord *h*, operating in the manner described for the purpose specified.

Second, the clip *d*, when made in one piece with the lugs *e*, so that it serves to guide the supporting frame on the upright and to hold the windlass for raising and lowering the said supporting frame, as set forth.

**66,287.**—HENRY BILHARZ, Seneca, Ill.—*Machine for Cutting Corn Stalks in the Field*.—July 2, 1867.—The machine cuts two rows of corn simultaneously. The stalks pass between the cutting jaws and double-edged knives, reciprocated by a hand lever, and fall on the hinged shelf boards, whereby they are thrown to the center.

*Claim.*—First, the peculiar construction of the cutting apparatus D D, consisting of the plates *a a*, and

the double-edged knives *b b*, substantially as and for the purpose described in the foregoing specification.

Second, the lever E, in combination with the knives *b b*, and the plates *a a*, substantially as and for the purpose described.

Third, the lever I, in combination with the hinged shelves G G, substantially as and for the purpose described.

Fourth, the railing L, in combination with the cutters D D, the lever I, and the shelf boards G G, substantially as and for the purpose described.

**66,288.**—W. D. BLACKMAN, Defiance, Ohio.—*Photographic Copying Board*.—July 2, 1867.—The post is adjustable in height and in distance from the camera upon its supporting piece. The picture is held between segmental plates, whose inner straight edges are vertical. These clamping plates are adjusted by pins which are attached to them and traverse curved cam grooves in a rotating rear plate and horizontal slots in the middle plate.

*Claim.*—First, a photographic copying board made and operating, substantially as and for the purposes herein specified and described.

Second, the device for centering the picture that is held on the plate F, said device consisting of the ratchet bar *d C*, pinion *e*, and shaft D, all made and operating substantially as herein specified and described.

Third, the device for adjusting the focus of the picture that is held on the plate F, said device consisting of the sliding block B, nut *g*, and screw shaft E, all made and operating substantially as and for the purpose herein specified and described.

Fourth, the device for increasing the size of the frame for holding the picture to be photographed, said device consisting of the stationary disk F, revolving disk G, pins *j j*, plates H, and spring bars *m*, all made and operating substantially as and for the purpose herein specified and described.

Fifth, the device for clamping the picture, consisting of the revolving clutch I, in combination with the stationary clutch F, disk G, pins *j*, and plates H, all made and operating substantially as described.

**66,289.**—ALPHONSO BOARDMAN, Forestville, Conn., assignor to himself and N. C. HUBBELL, New Haven, Conn.—*Calendar for Clocks*.—July 2, 1867.—Designed to be placed in a clock case and to be operated by connection with the works. The days of the week are on one cylinder, and the days of the month upon the ribbon on two other cylinders, one of them being on the same shaft as the former. The shaft is turned by a ratchet wheel operated by a pawl lever.

*Claim.*—First, the combination and arrangement of the cylinder A, representing the days of the week upon its surface, with a ribbon upon two cylinders D and F, arranged and operated so as to present the date corresponding to the day of the week.

Second, the combination of the wheel G and lever H, provided with its two arms *a* and *b*, with cylinders D and F, arranged so as to release and hold the cylinders, substantially in the manner herein described.

**66,290.**—R. F. BOCEMSDES, Wallingford, Conn.—*Bottle Stopper*.—July 2, 1867.—The rubber cylinder in its elongated form is introduced into the neck of the bottle, and is then expanded laterally by the rotation of the cap which draws up the flanged bushing. The contents of the bottle may be withdrawn through the tube without removing the stopper.

*Claim.*—The tube *b*, the upper end cut to receive the screw *c*, of the hollow head *d*, having a hinged cap, the lower end flanged to support the rubber cylinder *a*, all constructed and arranged in such a manner that the liquid shall be discharged from the bottle without removing the stopper, as herein shown and described.

**66,291.**—J. DEAN BONNEY, Pembroke, Mass.—*Paint Brush*.—July 2, 1867.—The band is placed over a sufficient portion of the bristles, and confined by an inclosing sheet metal strap, whose bent ends are engaged by the tapering slide.

*Claim.*—The combination with the removable and adjustable metallic band which surrounds the bristles of the clasp and its tapering slide for holding the said band upon the brush, substantially as and for the purposes set forth.



**66,292.**—CHARLES G. BOYER, Greenfield, Ind.—*Hay Rack.*—July 2, 1867.—The rack is for attachment to the running gear of a wagon, and consists of detachable parts.

*Claim.*—A hay rack with top rails  $A'$ , dovetailed to the standards  $D$ , and ends connected by the plates and hooks  $c c$ , in combination with the pivoted arms  $a a$  and cross pieces  $B'$ , for forming a portable rack provided with upright beams at one end and ladder to the other, substantially as set forth.

**66,293.**—CHARLES N. BROCK, Philadelphia, Pa.—*Pressure Filter.*—July 2, 1867.—Explained by the claim and illustration.

*Claim.*—The combination of a force pump with a battery of filters, substantially as described, so as to use any desired number of filters in battery, thus filtering and decolorizing the sirup, whether the same be heated or not.

**66,294.**—JAMES M. BROWN, Boston, Mass.—*Machine for Cleaning and Softening Sheepskins.*—July 2, 1867.—The skins, in lieu of simply soaking, are placed in the fulling mill, and water allowed to run into the same. Loose wool is collected by a wire at bottom.

*Claim.*—The above described process of treating skins, such being by a fulling mill and water, and by collecting the waste wool in a screen or its equivalent, as set forth.

Also, the combination and arrangement of the screen with the fulling mill, having a discharging hole in its reservoir, as set forth.

**66,295.**—JOHN F. BROWN, New London, Conn.—*Churn.*—July 2, 1867.—The box has a reservoir of water beneath the false, metallic bottom, to temper the heat of the cream. A series of cruciform breakers are placed in the churn, and the radial beaters revolve between them. The angular butter gathering paddle is attached to the radial arms when required to be used.

*Claim.*—First, the combination of the curved metallic bottom  $B$  with the sides and ends of the box  $A$ , for the purpose of forming a water chamber in the lower part of said box, substantially as herein shown and described.

Second, the butter gatherer and worker  $M$ , constructed, arranged, and operated substantially as herein shown and described, and for the purpose set forth.

**66,296.**—WILLIAM BROWN, Middletown, Conn., assignor to WILLIAM W. WILCOX and JOSEPH HALL, Jr.—*Grommet.*—July 2, 1867.—An iron flange is cast to the wrought metal thimble; after insertion the edge is spun over upon the other cast metal ring.

*Claim.*—The improved grommet, having a cast metal flange, united, substantially as described, to a sheet metal tube.

**66,297.**—E. O. and E. CARRINGTON, Wallingford, Conn.—*Machine for Cutting Down Augers.*—July 2, 1867.—The projection on the surface of the cam corresponds to the required projection of the lip of the auger; the adjustable guides bring the center of the chuck into proper relative position to the cutter.

*Claim.*—The combination of the bit-holding device  $G$  with the cutting cams  $L$  with the mill or cutter  $D$ , all constructed, arranged, and operating in the manner and by the means substantially as herein set forth.

**66,298.**—HENRY CHENEY, Little Falls, N. Y.—*Construction of Hammers.*—July 2, 1867.—The wrought-iron head is brazed or soldered to a cast-iron socket.

*Claim.*—The combination of the cast-iron socket  $B$  with the wrought-iron head  $A$ , both made and connected substantially in the manner and for the purposes set forth.

**66,299.**—DAVID N. B. COFFIN, Jr., Boston, Mass., assignor to himself and IRA D. SPAULDING, same place.—*Capstan.*—July 2, 1867.—Explained by the claims and illustration.

*Claim.*—First, the application of pawls to a capstan by means of a cast joint or hinge, in any manner, so as to allow the pawl to operate in both directions.

Second, the employment of a side opening  $g$ , in combination with the inclosed bolt, in the construction of a capstan.

Third, the arrangement of the inclined lifters made movable in combination with the lock notches or spaces  $h$ , so as to be used both to slide the bolts out of connection automatically, and also at the pleasure of the operator.

Fourth, the arrangement of the inclined lifters  $i i$  in duplicate and in reverse order, in combination with lock notches or lugs and sliding bolts.

Fifth, the arrangement of an elevated flat part  $j$  between two inclines arranged in reverse order, substantially as and for the purpose set forth.

Sixth, radially-sliding keys or bolts, in combination with a retaining socket in one part and a locking space or shoulder in another of two parts of a capstan or windlass, to be connected and disconnected, substantially as described.

Seventh, a roller or sheave, arranged with its axis obliquely to the windlass and its axis, substantially as described.

Eighth, the employment of conical or cylindrical rollers, arranged in combination with the spindle and barrel of a capstan or windlass, to relieve the friction incident to the side or transverse thrust, substantially as described.

Ninth, the arrangement of rollers longitudinally between the shoulder of the barrel and that of the spindle or bed plate, to sustain or support the barrel endwise.

Tenth, the arrangement of sliding bolts in sockets on the fulcrum gear, as described.

Eleventh, the lifting and sustaining ring  $v$ , in combination with the bolts or locking mechanism of a capstan, and inclined lifters arranged either on it, or an auxiliary part  $x$ .

Twelfth, the employment of an elastic or spring element interposed between the part bearing the pawl pockets and the fixed portion of the bed plate.

Thirteenth, the inclines  $X$ , for automatically lifting the fulcrum gear, substantially as shown.

Fourteenth, locking or clutching the center or first moving gear of a capstan to the lever head automatically, by interlocking lugs formed on each, substantially as described.

Fifteenth, the arrangement of a concentric, circular or annular flange or rib, or flanges or ribs  $N$  between the spindle or hub and the rim or periphery of the bed plate of a capstan or windlass, substantially as described.

Sixteenth, the arrangement of a friction wheel between the two barrels of a capstan or windlass, with provision for connecting or disconnecting it to or from one or both, at pleasure.

Seventeenth, the application of the differential windlass to the friction mechanism of a capstan or windlass.

Eighteenth, the employment of the combined bearing and brake or friction shoe in the friction mechanism of a capstan or windlass.

Nineteenth, the employment of chain lugs spanning the groove in the chain wheel and made adjustable radially in sockets at the bottom and extending up the sides of the groove between the two cheeks of the chain wheel, substantially as described.

Twentieth, the employment of keys back of said lugs, with or without the circular form, substantially as described.

**66,300.**—ALBERT W. COX, Indianapolis, Ind.—*Farm Gate.*—July 2, 1867.—The gate is not rigid but the rails are pivoted at their intersections with the stiles. The latch is pivoted to the middle stile and connected by links to the two-end stiles, so that in raising the outer end is lifted clear of the stub in the ground, ready to be swung on its hinges. The lever passes a spring latch, which keeps it in position.

*Claim.*—First, the provision in a jointed gate of the latch  $E$  and handle  $E'$ , connected in such a manner that the raising of the latch shall effect the elevation of the gate, substantially as described.

Second, the combination of the gate  $B C C^1 C^2$ , latch  $E$ , handle  $E'$ , and arms  $F F'$ , arranged and operating in the manner and for the purpose set forth.

Third, the arrangement of the parts  $H I J K$ , for sustaining the gate and latch in their elevated position when the gate is opened, and permitting them to assume their normal position when the gate is closed, as described.



**66,301.**—ALVORD M. COX, Elizabeth, N. J.—*Medical Compound*.—July 2, 1867.—Remedy for coughs and colds. Composed of two ounces each of wild cherry bark, elecampane, white balsam, hoarhound, and juniper berries, and one ounce each of comfrey and Iceland moss; made into a decoction, sweetened, and with the addition of spirits.

*Claim.*—The medical compound composed of the ingredients mixed together in or about the proportions substantially as described, for the purpose specified.

**66,302.**—L. M. CRANE, Ballston Spa, N. Y.—*Water-proof Paper Fabric*.—July 2, 1867.—Composed of two or more layers of paper and an interposed layer of gutta percha, rubber or other impervious material cemented to the paper by heat and pressure.

*Claim.*—As an improved article of manufacture, a water-proof paper fabric made substantially as herein shown and described.

**66,303.**—ROBERT CREUZBAUR, Newark, N. J.—*Connecting Link*.—July 2, 1867.—The two portions of the link have openings on opposite sides, and when closed upon an object each forms a mousing for the other.

*Claim.*—First, the two parts A and B, each with one opening, pivoted together at *p*, with these openings on opposite sides, substantially in the manner as shown and described and for the purpose named.

Second, strengthening the ends of the link subject to bending by shaping them in the manner named, the two parts forming the link being pivoted together through the parts thus strengthened, substantially as set forth.

**66,304.**—JOSEPH CROOKES, St. Louis, Mo.—*Swage for Upsetting Saw Teeth*.—July 2, 1867.—The die slips into the transverse opening in the handle, and the tooth of the saw enters the end opening, and is received in the slot of the die.

*Claim.*—The die stock A, having the mortises for setting the die B B' transversely in the stock, and the passage A<sup>2</sup>, when arranged and combined with the split die B B', substantially as set forth.

**66,305.**—JOSEPH CROOKES, St. Louis, Mo., assignor to himself and JOSEPH W. BRANCH, same place.—*Hardening Pan for Circular Saws, &c.*—July 2, 1867.—The pan containing the oil is open only at the upper end, and sets at angle of about 30°. The saw is clamped to a frame and slipped on ways into the bath.

*Claim.*—First, the pan A, when provided with the inclined ways *a*, either with or without the rollers *a'*, substantially as and for the purpose set forth.

Second, the clamp B for the purpose of confining the plates C in a true position while immersed in the bath in the pan A, as described and shown.

**66,306.**—JONATHAN DAVISON, Plymouth, Mich.—*Churn*.—July 2, 1867.—The dasher shaft receives a reciprocating vertical motion from the lever, and at the same time is rotated by the slipping of the spiral tube in the notch in the churn lid. The tube carries air into the churn.

*Claim.*—The arrangement of the staff D, provided with its tube *a* and dashers, with the churn body and the lever F, provided with its swivel block, for the purpose of churning milk or cream, substantially as herein specified.

**66,307.**—DAVID P. DAVIS, Jersey City, N. J.—*Registering Steam Gauge*.—July 2, 1867.—In connection with a pressure gauge is a graduated disk, which is revolved by a regular motion, and marked by a pencil, whose motions are governed by the changes in the pressure. A time diagram of pressure is thus obtained.

*Claim.*—The combination with a pressure gauge, or any equivalent therefor, of a marker of any suitable form, and revolving diaphragm disk, or its equivalent, when all combined and arranged together, substantially as and for the purpose described.

**66,308.**—SOLOMON G. DEUTLER, Orangeville, Ill.—*Corn Planter*.—July 2, 1867.—The wheel is of a size to measure the planting distances, and its projections work the sliding plate, whose graduated

openings feed the seed to the spout in the rear of the furrow opener.

*Claim.*—The combination of the sliding valve plate C, having a rigid arm E, and a flexible arm F attached to its rear end with the hopper B, beam A and operating wheel G, substantially as herein described and for the purpose set forth.

**66,309.**—JAMES DEPEU and J. DARRAH HALL, Peekskill, N. Y.—*Car Coupling*.—July 2, 1867.—Each draw-head carries a link. When not in use the inner end of the link is held by a sleeve and vertical pin. When the latter is raised, so that its shoulder comes above the draw-bar, the link may be brought forward into coupling position. In coupling the entering link trips the gravitating latch, which raises the catch pin, and the latter falling behind it prevents retraction.

*Claim.*—First, the sleeve *f*, which holds the link, and the arrangement by which the sleeve and the coupling pin C are moved longitudinally in the draw-head, substantially as described.

Second, a coupling with coupling links and sleeves *f*, arranged in each draw-head, substantially as described.

Third, the weighted lever D and the catch pin E, in combination with the sleeve *f* and pin C, arranged substantially as set forth.

**66,310.**—T. W. DODDS, Rotherham, England.—*Effecting the Cementation of Rails, Axles, &c.*—July 2, 1867; antedated December 1, 1865.—Explained by the claim.

*Claim.*—The conversion of an iron surface into steel by treating the same in a suitable cementing furnace with a mixture composed of charcoal or other carbonaceous matter, potash or other alkaline matter and lime, or matter containing lime, substantially as herein set forth.

**66,311.**—R. B. DONALDSON and EMMETT QUINN, Washington, D. C.—*Steam Gauge*.—July 2, 1867.—The rubber is molded around smooth metallic rods or tubes, by which the vertical channels therein are made. The tube which the steam first enters may be bushed with metal.

*Claim.*—First, the construction of tubes for steam gauges of india-rubber, gutta-percha, or other compound, or other suitable material, substantially in the manner and for the purposes as herein set forth.

Second, the construction of hollow cores of metal, or other suitable material, supported by mandrels, substantially in the manner and for the purposes as herein set forth.

**66,312.**—DANIEL M. DONEHOO, Beaver, Pa.—*Safety Bridle*.—July 2, 1867.—The safety rein runs through a ring in the gag rein and passes back to the check hook. The gag rein passes through the runner, the bit ring, the ring on the check strap, and then fastens to the bit ring. A double purchase is given by the replication of the safety rein, and the power is increased by the triplication of the gag rein at and near the bit.

*Claim.*—The arrangement of the safety rein F and gag rein H J with the rings E I L, operating as described and represented.

**66,313.**—A. J. DOOLITTLE, Hamden, Conn.—*Spittoon Envelope*.—July 2, 1867.—The lid is opened by the pressure of the foot on the lever and closes by a spring.

*Claim.*—The spittoon box A, provided with a hinged cover B, which is operated by means of the spring *c* and levers *a* and *d*, substantially as and for the purpose specified.

**66,314.**—SAMUEL EBERLY and GEORGE HAUCK, Mechanicsburg, Pa.—*Horse Rake*.—July 2, 1867.—The shanks of the rake teeth lie on the horizontal section of the hinged rake head. The teeth are held in position by spring coils, allowing them to surmount obstacles and renew their positions.

*Claim.*—Connecting the rake teeth to the swinging rake head by the combined use of the shanks *c* and their extended bearings in the boxes *i*, and the reactionary springs *f*, constructed, arranged, and operating substantially in the manner and for the purpose described and represented.



**66,315.**—J. FISCHER, St. Louis, Mo.—*Medicine*.—July 2, 1867.—Remedy for intermittent fever. Composed of tincture of rhubarb, aloes, cinchona, Virginia snake root, orange peel, saffron, cochineal, gentian, calamus, columbo root, myrrh, arnica flowers, in stated proportions and with the addition of solution of quinine and water.

*Claim.*—The chemical compound, when composed of the ingredients and used substantially as and for the purposes set forth.

**66,316.**—JOHN FORBES, New York, N. Y.—*Skate*.—July 2, 1867.—The boot sole is placed on the two points of support and the moving of the lever and its pivoted plate draws the lateral clamp against the sole and drives the toothed bar against the front of the heel.

*Claim.*—First, the slotted guide box S, in which the slotted jaws D are adjustably secured and operated by means of the centrally pivoted blade E, in the concentric slots *d* of which the ends of the bolts work, all constructed and operating as herein set forth, for the purpose specified.

Second, the combination and arrangement of the longitudinally-sliding plate H, slotted plate I, arm G, and spring arm F, pivoted slotted plate E, slotted jaws D, and slotted guide box C, as herein set forth, for the purpose specified.

**66,317.**—WILLIAM J. FRYER, West Troy, N. Y., assignor to himself and JOHN P. WITBECK, same place.—*Pattern for Casting Pot-hole Covers*.—July 2, 1867.—The hanging portion of the core, which forms a recess for the point of the stove hook, is molded with a chambered plate, which is afterwards slipped back to enable the withdrawal of the pattern.

*Claim.*—The chamber *d*, in combination with the plate B and its chamber *g*, fitted to occupy the cavity *f f*, and to slide within the channel *h*, substantially as described and for the purposes set forth in this specification.

**66,318.**—JOSEPH J. FRENCH, Baltimore, Md., assignor to himself and REUBEN A. McCAULEY.—*Globe Valve for Steam Engines*.—July 2, 1867.—The valve is kept true by the double bearing of its stem in the stuffing box and the sleeve screw in the arch.

*Claim.*—A globe valve, having a wheel or lever A, carrying a hollow screw B, to operate the valve C by means of the stem D, constructed and operating in the manner substantially as shown and described and for the purpose set forth.

**66,319.**—G. D. and H. A. GOODRICH, Joliet, Ill.—*Manufacture of Clay Pipes*.—July 2, 1867.—The clay is tempered in a horizontal mill and expelled through the annular throat by a vertical mill. The annular cutting disk descends with the same motion as the pipe, so as to make a square cut, while the pipe is continuously made in a vertical position; the disk is suspended by weighted guides acting in unison with the weights that support the pipes; the cutters are actuated by stationary inclines. The guides have double-acting inclines. The weights come consecutively into use on the single cord as the weight of the pipe increases.

*Claim.*—First, the grooved disk T, when applied to clay-pipe machines and arranged to descend, while cutting the pipe, with the same motion as the pipe.

Second, the combination of a suspended rotating disk or wheel T with one or more cutters *h*.

Third, the weighted guide heads U, when provided with arms V, substantially as and for the purposes specified.

Fourth, the two-edged knives or cutters *h*, provided with the heel or projection *t*.

Fifth, the cams *i*, provided with the springs *j*, substantially as and for the purposes specified.

Sixth, the combination and arrangement of the cams *i* and springs *j* with the cutters *h*, heel *t*, and rotating disk T.

Seventh, the combination and arrangement of the guide heads U with the weights *o* and W, substantially as specified.

Eighth, the arrangement of the weights *o p* upon a single cord, so as to increase the weights as they ascend, substantially as specified.

Ninth, the rests or ledges *z*, in combination with a

series increasing in lateral dimensions, operated by a single cord, substantially as specified.

Tenth, the arrangement and combination of the cross-bars Y Z, standard *l*, and mandrel K with the cords *n*, weights *o p*, and ledges *z*, substantially as and for the purposes specified.

Eleventh, the combination and arrangement of a descending platform for receiving a vertical pipe, constructed and arranged substantially as specified, with a rotating disk provided with cutters and descending with the same motion as the platform while cutting, substantially as specified.

**66,320.**—HORACE A. GOODRICH, Joliet, Ill.—*Manufacture of Clay Pipes*.—July 2, 1867.—The bridge is placed between the screw of the shaft and the revolving core; a plate projects inward to gather the clay and one outward to form the exterior portion of the mold around the revolving core.

*Claim.*—First, the bridge *a*, when located between the screw or feeding portion of the shaft G and the revolving core F of a mold in a clay-pipe machine, substantially as and for the purposes specified.

Second, the plate B, when provided with a gathering flange C, projecting inwards and permanently attached, substantially as set forth.

Third, the plate D, when provided with the outer portion E of the mold and made adjustable by means of the holes and bolts *b*, substantially as described.

**66,321.**—A. W. GORE, Manhattan, Kansas.—*Fence Post*.—July 2, 1867.—The tapering tube of metal is planted on a foundation block and has cross-rods to support the rails of the panel.

*Claim.*—A post for fences, &c., made of sheet metal, provided with cross-wires or rods, substantially as and for the purpose described.

**66,322.**—DAVID N. GREEN, Coldwater, Mich.—*Hand Scoop*.—July 2, 1867.—The flattened portion furnishes a foot to enable the scoop to stand erect.

*Claim.*—A cylindrical hand scoop, with a flat base to prevent the same from turning over, as and for the purpose described.

**66,323.**—C. GRESIUCHNA and L. JARCHOW, New York, N. Y.—*Apparatus for Rectifying Distilled Liquids*.—July 2, 1867.—The vapors from the still pass to a low-wine receiver, thence to a rectifier, where they pass in a serpentine course around the outer edges of a succession of circular dishes and the inner edges of the alternating annular shelves which form a vertical column in the casing. The cups in which the central portions of the dishes are submerged form traps, which prevent direct vertical ascension of the vapors on the axial line. The collected contents of the cups overflow and return to the bottom and the condensation is assisted by the succession of water jackets of gradually increasing temperature in the ascending series. Thus a vapor of increasing tenuity is gradually eliminated.

*Claim.*—First, the arrangement of the receiver A, provided with one or more dishes D and a water vessel E, in combination with the rectifiers G G<sup>1</sup>, provided with dishes D<sup>1</sup> D<sup>2</sup> D<sup>3</sup> D<sup>7</sup> K, water jackets I I<sup>1</sup> I<sup>2</sup>, water vessel L, and suitable connecting pipes, all substantially as shown and described.

Second, the arrangement of cups *d<sup>1</sup> d<sup>2</sup> d<sup>3</sup> d<sup>7</sup>*, in combination with the dishes D<sup>1</sup> D<sup>2</sup> D<sup>3</sup> D<sup>7</sup> and shelves H in the rectifier G, substantially as and for the purpose set forth.

Third, the arrangement of dishes K with depressions *m* and descending tubes *n* in the interior of the rectifier G, constructed and operating substantially as and for the purpose described.

**66,324.**—HENRY C. GRIGGS, Waterbury, Conn., assignor to HOLMES, GRIGGS & SMITH, same place.—*Buckle*.—July 2, 1867.—One end of the strap is fastened to the loop of the tongue, which passes through an opening in the frame; the other end of the strap passes through another opening in the frame and is held by the bite of the tongue.

*Claim.*—The herein described buckle, consisting of the plate or frame A and the looped tongue B, formed so as to be inserted through the plate and to operate substantially in the manner herein set forth.



**66,325.**—OLIVER GUINAND, Vicksburg, Miss.—*Instrument for Perforating Cigars.*—July 2, 1867.—The tip of the cigar depresses the plunger and its sides near the end come in contact with pivoted spikes, which impale it as it descends.

*Claim.*—First, the hollow block A, having the spikes C pivoted in slots or mortises in its walls, as and for the purposes described.

Second, the hollow block B, having right-angled triangled slots or mortises D, to receive and for the passage of the spikes C and seated on the spring *a* in the block A, substantially as and for the purposes described.

**66,326.**—GEORGE D. HADLEY, Cincinnati, Ohio.—*Stop-cock.*—July 2, 1867.—The stem of the valve is depressed by the lever eccentric and stretches the elastic disk, which returns it when the lever is oscillated in the other direction. The guides keep the valve in axial position.

*Claim.*—The eccentric lever by which the valve is operated, the elastic disk D<sup>1</sup>, the cap D confining the disk D<sup>1</sup>, and the valve B with its guides *a*, in combination with the shell of a water cock, the whole constructed and arranged substantially as herein shown and described, for the purposes set forth.

**66,327.**—A. S. HALLIDIE, San Francisco, Cal.—*Suspension Bridge.*—July 2, 1867.—Each cable passes from the top of one pillar to the bottom of the opposite one. The cables are connected to the girders by vertical and inclined rods whose nuts give support to the flanged ends of the girders.

*Claim.*—First, the cables C C, in combination with the suspension rods D D and girders E E, all made and operating substantially as herein specified and described, and the rods D, being made adjustable as set forth.

Second, the combination of the adjustable cables C C, posts A, rods D, girders E, and adjustable braces G with each other and with the flooring F, all being made substantially as herein specified and described.

**66,328.**—T. C. HARGRAVE, Boston, Mass.—*Railway Chair.*—July 2, 1867.—Between the chair and the rail is driven a long wedge which is detained by a spring piece engaging notches in the side of the wedge.

*Claim.*—In combination with the chairs and rails of a railway track, an indented wedge and spring detainer, arranged to operate together substantially as described.

**66,329.**—CHAS. A. HARPER, Rahway, N. J.—*Boiler for Heating Water.*—July 2, 1867; antedated June 24, 1867.—The boiler has a vertical cylindrical flue ending in a pipe for escape of smoke; this cylinder contains an annular water space connecting with the boiler near its upper and lower ends.

*Claim.*—The boiler A, having an internal flue or fire chamber B surrounding the pipe-formed water heater C, through which the water in the boiler circulates by means of pipes D D<sup>1</sup>, said parts being constructed and arranged for use substantially in the manner and for the purpose set forth.

**66,330.**—CHARLES T. HARVEY, Tarrytown, N. Y.—*Propelling Cable for Railroad Guides.*—July 2, 1867.—The clutch arm beneath the car is oscillated to engage it with the spur of the ferrule which travels beneath in the cable guide. The ferrules travel on vertical and horizontal rollers and form links in the cable, being in continuity therewith. The continuous steam pipe prevents freezing up.

*Claim.*—First, the cable heads or ferrules hereinabove described, having plain operating faces so that they act on the cable clutch or arm C of a car, by simple contact therewith, substantially as described.

Second, the horizontal roller E, on the under side of the cable head, in combination with the supporting vertical rollers, substantially as described.

Third, the combination of the vertical supporting rollers of the cable head A' with the upper horizontal rollers D D and the lower horizontal roller E, all placed and operating substantially as set forth.

Fourth, the vertical spur B of the cable head or ferrule projecting above the top of the cable guide, substantially as described.

Fifth, the beads *s s* of the cable guide, in combina-

tion with the cable heads or ferrules A' of a propelling cable, substantially as described.

Sixth, the ledges *t t* of the cable guide, in combination with the cable head or ferrule, substantially as shown.

Seventh, the steam pipe *r*, in combination with a cable guide, substantially as described.

**66,331.**—HAYWARD A. HARVEY, Orange, N. J.—*Nail.*—July 2, 1867.—The shank has depressions at intervals on two sides and projections on the edges, to present inequalities of surface to increase the hold in the wood.

*Claim.*—The combination of the head of a nail with one or more cavities and protuberances or ratchets upon the sides and edges of the shank thereof, substantially as described, whereby the lateral diameter or width of the shank is increased as shown.

**66,332.**—JAMES D. HATHAWAY, Medford, Mass.—*Screw Clamp for Planking Vessels.*—July 2, 1867.—The small end of the clamp is inserted between the knees or timbers of the vessel and held there by the serrated cam. The plank is sprung to place by the screw.

*Claim.*—A screw clamp consisting of a frame, a male and female screw, and serrated cam, combined and operating substantially as described.

**66,333.**—REASON HAWKINS, Palestine, Ind.—*Grain Screen.*—July 2, 1867.—The grain passes from the hopper over a riddle to throw out the larger impurities, and then over two inclined screens which discharge into separate compartments. Over the upper screen are placed transverse bars with narrow passages beneath. The upper end of the screen frame rests on the octagonal roller, and it has an oscillating, vibratory motion.

*Claim.*—The arrangement of the screens *h* and *m* and the cross-bars K K in the box D, and the trash screen *e* at the head of the box, in combination with the octagonal roller E, operating as and for the purposes herein described.

**66,334.**—B. R. HAWLEY, Normal, Ill., assignor to himself, E. WASHBURN and C. A. MONTROSS.—*Sorghum Evaporator.*—July 2, 1867.—An outside filtering pocket filled with wool is attached to the side of the boiling pan, and receives boiling liquid which by its cooling and consequent increased gravity sinks therein and returns by openings below to the pan. Thus is kept up a circulation and a constant straining process.

*Claim.*—First, the construction of an evaporating pan in such a manner as to create a continuous upward and downward flow of the boiling sirup, as represented by the arrows *a a*, substantially in the manner and for the purpose set forth.

Second, the filtering pockets D, in combination with the boiling pans or defecator of an evaporating apparatus, substantially in the manner and for the purpose set forth.

Third, the cooler E, in combination with the finishing pan C, as described and set forth.

Fourth, filtering the boiling sirup by continuously passing the surface fluid down through a filtering substance in the pocket D to the bottom of the boiler, substantially in the manner and for the purpose set forth.

Fifth, the strainers D', in combination with the boiling pans or defecator, and the pockets D, substantially as described and set forth.

**66,335.**—JAMES M. HAWLEY, Holton, Ind.—*Plow.*—July 2, 1867.—The plow standards have side bends by which they are attached to the plow beam when used in double-shovel form. When three shovels are used these standards are attached to side brackets and an additional plow added. The scraper may be attached to the frame by standards.

*Claim.*—First, the standards H and E, constructed substantially as herein described, in combination with the shovels K and G and beam A, in the manner and for the purpose set forth.

Second, the combination of the handles B and forked and slotted connecting bar C with the beam A, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the bent bars or frame



M with the beam A and standards II, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination with the scraper plate P with the forward standards II, substantially as herein shown and described and for the purpose set forth.

**66,336.**—JASPER HAZEN, Bethlehem, N. Y.—*Beehive*.—July 2, 1867.—The central compartment, containing the breeding and store honey frames, has on two sides and top chambers containing surplus honey boxes, in communication with each other and the central compartment. The two other sides are closed by shutters, and the bottom has a hinged alighting board.

*Claim.*—The combination of the central apartment *g*, the movable partitions *d d*, and the side surplus honey boxes *i i*, arranged in the manner described.

**66,337.**—LABAN HEATH, Boston, Mass.—*Detecting Counterfeited Bank Notes, &c.*—July 2, 1867.—Impressions of parts of the notes of each denomination are printed from duplicates of the original dies and plates. These impressions may be halves of the plate or a mutilated portion. They are to be kept as tests for comparison by non-experts of spurious or suspicious-looking notes.

*Claim.*—The mode of detecting counterfeit bank notes by the means of impressions made from duplicates of parts of the genuine dies or plates mutilated, substantially in the manner set forth.

**66,338.**—CHARLES HEATON, New York, N. Y.—*Treating Bamboo, Cane, and other Fibrous Plants*.—July 2, 1867.—Designed to save the washing of the fiber after treatment with caustic alkali, and to save the resinous portions of the material, by precipitation by a concentrated solution of alum.

*Claim.*—First, saving and utilizing the resinous and other soluble portions of vegetable fibrous matters which are usually washed out and wasted, in the manner set forth.

Second, the employment of alum or acid, in paper making, whenever the same is so applied as to precipitate that portion of the gum which is now washed out and wasted.

Third, in the disintegration of vegetable fibrous matter, when an alkaline solution has been used and become discolored or opaque, or partially so, the employment of alum, and for precipitating the suspended matter or clarifying the solution, as herein set forth.

**66,339.**—JACOB HEED, Temperanceville, Ohio.—*Chimney*.—July 2, 1867.—Projections of the back wall near the throat deflect heat into the room. Occasional diaphragms with apertures are placed in the chimney, each having an opening larger in area than the one below it.

*Claim.*—In a chimney constructed as described, the projections A A and the diaphragms B D, one or more, each provided with an aperture, and arranged substantially as described and for the purposes specified.

**66,340.**—STEPHEN H. HERRICK, Grinnell, Iowa.—*Cultivator*.—July 2, 1867.—The metallic standards are turned forward in a horizontal direction and pivoted to the rear end of the beam. The fore end of these longitudinal bars meet in a vertical screw which passes through the beam and is adjusted by set nuts.

*Claim.*—The frame B, turned up and threaded at its forward end, and connected to and regulated at the rear end of the beam by the bolt D, as and for the purpose set forth.

**66,341.**—H. W. HOLDEN, T. J. MOOERS, D. H. STRATTON, and G. REYNOLDS, Blossburgh, Pa.—*Roof and Clapboarding Bracket*.—July 2, 1867.—The bracket has an upwardly extending slotted plate taking under a course of shingles, or for attachment to the rafters or studding, and a clawed foot to prevent slipping. The support or truss is removable, and may have a brace piece whose foot claw enters the wall or roof at a lower level.

*Claim.*—First, a combined roofing bracket A, support C, and brace D, when made and operating substantially as herein shown and described.

Second, the bracket A, when combined with a truss

B, both made and operating substantially as herein shown and described.

Third, the bracket A, with a hook *d* and platform *e*, substantially as and for the purposes herein shown and described.

Fourth, the truss B with a brace *i*, hook *h* and lug *j*, and pins *l*, substantially as and for the purpose herein shown and described.

Fifth, the support C, with a hook *h*, pin *j*, and pins *n n*, substantially as and for the purpose herein shown and described.

**66,342.**—NATHAN HOLLINGSWORTH, Rosetta, Ill.—*Graduating Level*.—July 2, 1867.—The rotating horizontal disk is pivoted to its adjustable bed plate, and has standards giving journal bearings to the circular frame on which the telescope is mounted. This frame has a segmental rack engaged by spur wheel which oscillates it in a vertical plane. A segmental scale on the frame, beneath the index wire, which is connected to a gravitating arbor, indicates the inclination of the telescope.

*Claim.*—The weighted arbor *l* and arms *m*, with index *n*, traversing over the scale *p*, in combination with the telescope A and brake *g*, constructed and operating substantially as and for the purpose described.

**66,343.**—HENRY F. HOLT, Fredonia, N. Y., assignor to himself and THADDEUS C. ABBOTT, same place.—*Shifting Rail for Carriages*.—July 2, 1867.—The shifting rail has pin hooks which enter from the rear loops which are attached to the sides of the buggy seats. The rear portion of the shifting rail has pendent staples which pass through staples of the buggy seat, and are engaged by spring catches.

*Claim.*—A self-fastening shifting rail for buggy tops, constructed substantially as herein described.

**66,344.**—NELSON HOUCK, Canton, Ohio.—*Railroad Gate*.—July 2, 1867.—The sliding gates are opened by the passing train, and re-closed automatically. Devices stated in the claims.

*Claim.*—First, the peculiar arrangement and combination of the part L of the rail L M, the rods *c d*, rock lever *l m*, rods O P, and turning plate B, the several parts being arranged as and for the purpose set forth.

Second, the peculiar arrangement and combination of the turning plates B C D E F, rods S T *t*<sup>1</sup>, *a b t*<sup>2</sup>, S<sup>2</sup> T<sup>2</sup>, connecting rods A A, bars *g h*, and combined levers *p p q q*, the several parts being arranged as and for the purpose set forth.

Third, the spring V<sup>1</sup>, when used in connection with the axle V of the turning plate D, substantially in the manner and for the purpose specified.

Fourth, the rods A<sup>3</sup>, with springs *a*<sup>3</sup>, when used in connection with the part L<sup>1</sup> of the compound rail L<sup>1</sup> M<sup>1</sup>, substantially in the manner and for the purpose specified.

Fifth, the vertically slotted holes either in the part L<sup>1</sup> or the part M<sup>1</sup> of the compound rail L<sup>1</sup> M<sup>1</sup>, when such slots are used for the purpose of allowing a vertical motion to the part L<sup>1</sup>, substantially in the manner and for the purpose specified.

**66,345.**—W. H. HOUSTON, New York, N. Y.—*Boat Detaching Apparatus*.—July 2, 1867.—The hook of the block engages a pawl which is pivoted to one movable bar and catches on the other. When the weight is taken from these bars by the boat resting on the water, the bars fall and their ends are thrown out by the inclined slots, to release the pawl. This downward movement is assisted by a spring. The bars may be fixed in engaging position by introduction of a cam lever beneath them.

*Claim.*—The combination of the catch pawl P, locking bar *h*, and spring *m*, with the lock frame, the whole arranged to operate as described for the purpose set forth.

Also, an automatic boat eye or lock, so constructed as to unlock when the weight of the boat rests fairly on the water, substantially as hereinbefore described.

**66,346.**—WILLIAM HUEY, Galena, Md.—*Fruit Box*.—July 2, 1867.—The side slats are fastened to a solid bottom, and to a rectangular rabbeted upper frame. The spring catches serve for attachment of the lid, or to hold the boxes together in nests.



*Claim.*—First, as a new article of manufacture, the fruit and vegetable box with the lid, all constructed substantially as set forth.

Second, the lock H, composed of the plate *h*, with a key-hole, the hooked plate *i*, and the spring *l*, arranged substantially as set forth.

Third, the slats *a*, notched slats *g*, and rabbeted corners *e*, in combination with the rabbeted rim *b*, and rivets *c*.

Fourth, the slats *a*, notched slats *g*, rabbeted corners *e*, and locks H, in combination with the lid *p*, substantially as set forth.

**66,347.**—G. HENRY HULSKAMP, New York, N. Y.—*Violins, &c.*—July 2, 1867.—Double oblique braces are secured to the frame at its connection with the upper sounding board. A screw attaching the adjustable string-holder to the brace below stretches the sounding board and tightens the strings simultaneously and relieves the board from tension. The bridge is pressed by the strings against the oblique brace behind and stretches the rear sounding board.

*Claim.*—First, the straining of sounding boards in violins and other instruments before named and referred to of whatever material made, by the tension and pressure of the strings, substantially as hereinbefore described.

Second, transmitting the vibrations of the strings by posts or pulleys braced to different points of the upper and lower sounding boards and making the feet of the bridge K to bear upon the oblique braces, substantially as described.

Third, making the finger board and string holders in one piece, with an orifice O for the bridge K, and connecting the same with the oblique brace *d d*, substantially as set forth.

Fourth, securing the strings directly on the end of the extended finger board at *p p p*, substantially as described.

**66,348.**—SAMUEL HUTCHINSON, North Lewisburgh, Ohio.—*Beehive.*—July 2, 1867.—The endless apron is stretched beneath the hive and has transverse cleats hollowed out on their under sides to furnish traps for the deposit of moth eggs. Sectional cleats on the apron limit the ingress openings.

*Claim.*—The endless apron G, provided with cleats *e f*, and placed underneath the body or main portion of the hive, substantially as and for the purpose herein set forth.

**66,349.**—JOHN HYSLOP and CHAS. E. PHILLIPS, Abington, Mass.—*Sirup Pitcher.*—July 2, 1867.—The cork block packs against the vertical edge of the spout to force the drip backward when closing the lid.

*Claim.*—The block F, applied to the lid or cover of a sirup pitcher, substantially as and for the purpose described.

Also, the spring E, or its equivalent, in combination with the cover or lid B, substantially as described and for the purpose specified.

**66,350.**—W. B. INGERSOLL, New York, N. Y.—*Bed Bottom.*—July 2, 1867; antedated June 27, 1867.—The cord is passed around sheaves on the head and foot boards of a frame, instead of the usual pins on the rails. The head bar of the frame is divided horizontally and held on short spring bars of the sides. The slack of the cord is wound on a bar held from back rotation by a pawl.

*Claim.*—The combination of the pulleys *c* around which the cord *r* passes, the cross-bar *a* to which the pulleys are attached, the movable arms *h*, the windlass *g*, and the springs *f*, under the arms or head-piece or cross-bar, all as and for the purpose specified.

**66,351.**—CHARLES C. JOHNSON, Springfield, Vt.—*Dough Kneader.*—July 2, 1867.—The lever passes through a diametric mortise in a rotatable standard. The mortise has a roller above the lever. A transverse roller is connected to a frame attached to the lever.

*Claim.*—First, the combination of the revolving standard B, lever C, and one or more rollers F and cross-pieces D, substantially as and for the purpose set forth.

Second, the combination of the cross-piece D when formed to act as a scraper, and the roller F when at-

tached to a lever C, operating substantially as and for the purpose set forth.

**66,352.**—SYLVESTER JOHNSON, New Harmony, Ind.—*Horse Rake.*—July 2, 1867.—Depressing the treadle lever lifts the pawl and tips the shaft; it also disengages the sash from the notches of the tines and allows the rake to rotate.

*Claim.*—First, the combination of the lever M, chain or rod L, arm K, pivoted sash or frame I, pawls O, with the shaft of the rake head, substantially as herein shown and described, and for the purpose set forth.

Second, the combination of the arm P and link R, or its equivalent, with the arms K, notched rake teeth and sash I, substantially as herein shown and described for the purpose specified.

**66,353.**—WILLIAM C. JOY and JOHN CAMPBELL, Penn Yan, N. Y.—*Bleaching Paper Pulp.*—July 2, 1867.—The pulp is stirred by the armed dasher and a blast of air introduced beneath the mass.

*Claim.*—Treating paper pulp of all kinds with air, pure or mixed, at any temperature, by causing a current or currents of air to pass through the mass by means of a forced blast or current or by an exhausting fan or pump that will cause sufficient air to pass through the mass to accomplish the result specified, substantially as and for the purpose specified.

**66,354.**—H. N. KEABLES, Worcester, Mass.—*Gear Cutter.*—July 2, 1867.—The teeth are formed in couples with cleaning spaces between them.

*Claim.*—A gear cutting tool of continuous operation by revolving, the cutting teeth of which are arranged radially at equal distance from their center of revolution groups, leaving equidistant and equalized clearing spaces between said groups, and otherwise constructed substantially as and for the purpose set forth.

**66,355.**—PHILIP H. KELLS, Adrian, Mich.—*Brick Machine.*—July 2, 1867.—Improvement on his patent March 19, 1867. The cylinders are set in annular flanges of the solid bed plate. A stationary plate sustains the pressure when the followers act upon the clay. The said plate has a cutting edge to remove superfluous clay from the molds. The bed plate supports are adjustable to compensate for wear.

*Claim.*—First, the bed plate B formed with the annular flanges B' B' for the reception of the pug mills F F, substantially as described.

Second, the cut-off plate J, arranged and operating in the manner and for the purpose specified.

Third, the bed plate B when supported so as to be adjustable in relation to the mold wheel, substantially as described.

Fourth, the adjustable incline L, arranged and operating in the manner and for the purpose explained.

Fifth, the reversible knife N formed with cutting edges on its opposite sides, and arranged and applied to operate as set forth.

Sixth, the combination with the knife N of the clay guard or shield N', arranged and employed in the manner and for the purpose set forth.

Seventh, the combination, with the wheel I, of the adjustable supporting frame P', stationary base plate P<sup>2</sup>, projections *p p*, screw bolt *p*<sup>2</sup>, and nut *p*<sup>3</sup>, substantially in the manner and for the purpose specified.

Eighth, the arrangement of the intermediate gear wheels I<sup>2</sup> I<sup>2</sup>, in connection with the mold wheel E and cog wheels I<sup>1</sup> I<sup>1</sup>, as herein described and represented.

**66,356.**—P. G. KENNY, Rahway, N. J.—*Wash or Steep for Roots, Seeds, &c.*—July 2, 1867.—Designed to prevent devastation of seed by insects, and to destroy insects on trees. Composed of a solution of  $\frac{1}{2}$  lb. copperas in 1 gall. water.

*Claim.*—First, a wash or steep for seeds, roots, trees, plants or vines, composed of sulphate of iron dissolved in water in or about the proportions described, and for use in manner substantially as specified.

Second, sulphate of iron dissolved in or admixed with urine or chamber lye, to form a wash or steep, essentially as and for the purpose or purposes herein set forth.



**66,357.**—P. G. KENNY, Rahway, N. J.—*Manure*.—July 2, 1867.—Explained by the claims.

*Claim.*—First, a fertilizer composed of farm or stable-yard manure, or other suitable animal or vegetable substances decomposed, or having sulphate of iron admitted with or dissolved in it or them by the passage of urine therethrough, substantially as specified.

Second, the employment of aluminous earth in connection with stable-yard manure, or other animal or vegetable substances, and sulphate of iron as a fertilizer, essentially as herein set forth.

**66,358.**—HENRY KEWLEY, Perry, Ohio.—*Machine for Digging Potatoes*.—July 2, 1867.—The potato vines are raised from the ground by lift rods, and are removed from the digging mechanism by a pair of belts. The potatoes are raised by a series of tines secured by a vibrating seat. The conveyors consist of hooked fingers secured in sets to a wide belt, the fingers pass between the digger tines and convey the potatoes to the inclined screen, from whence they fall into baskets.

*Claim.*—First, the employment and use of the belts K K' and pulleys J J J' J<sup>2</sup>, Fig. 6, when arranged to operate substantially in the manner and for the purpose herein specified.

Second, the employment and use of the digger herein described and shown in Fig. 3, consisting of blades L, constructed as described, secured in series on the seat L', constructed as described, journals d, and handle M, located and operating as and for the purpose specified.

Third, the combination of the hooked fingers F, conveyor belt E<sup>2</sup>, digger Fig. 3, and inclined screen chnte H, arranged and operating substantially as and for the purpose set forth.

Fourth, the employment and use of the lift rods R R, constructed as specified and shown in Fig. 6, and made adjustable in the manner described and shown in Fig. 7, all located and operating in combination with the belts K K', as and for the purpose herein set forth.

**66,359.**—CHARLES KING, Morristown, N. J.—*Car Replacer*.—July 2, 1867.—One inclined plane bridges the rail, and the other leads up to it. The anchors are clamped by cams to the rails, and ropes lead therefrom to a windlass on the axis of the engine.

*Claim.*—First, the inclined planes B B, in combination with the pivoted rail D, on B', and the clamps C, all constructed in the manner as and for the purpose set forth.

Second, the arms or anchors E, fitted or pivoted in bars F, clamped to the rails A A, in combination with the cables or chains H and the windlass J, on the axle of the engine, said parts being arranged substantially in the manner and for the purpose specified.

**66,360.**—NORMAN KING, Etna, Pa.—*Throttle Valve Gear*.—July 2, 1867.—The throttle valve is moved by the action of two levers, each of which has arms attached and is pivoted on a stationary standard.

*Claim.*—The standard A and the levers B and F, with the arms C and G, constructed, arranged, and operating substantially as shown and described for the purpose set forth.

**66,361.**—SELDEN W. KNOWLES, New Haven, Conn.—*Cradle*.—July 2, 1867.—The body is hung upon the upper ends of four levers, whose lower ends are pivoted to a frame over the easter rollers. Alternately elevating arms depressing these levers give a rocking motion. A central block prevents lateral displacement, and the cradle may be locked by studs beneath the levers.

*Claim.*—First, the arrangement of the levers D and E, pivoted to the cradle C and to the frame A, constructed and arranged so as to operate substantially in the manner herein set forth.

Second, the arrangement of the guide G, in combination with the cradle C, so as to prevent the lateral movement of the cradle, and operate substantially as herein set forth.

Third, the arrangement of the block I, in combination with the cradle C and levers D and E, so as to operate as and for the purpose specified.

**66,362.**—C. H. KNOX, Mount Pleasant, Iowa.—*Clothes Wringer*.—July 2, 1867.—The levers bearing on the axes of the upper roller are actuated by rods, connecting them with a hanging roller below; this is depressed by a weighted lever, and permits a certain amount of rocking motion to equalize the pressure of the roller when clothes are fed in unevenly. The central pinion meshing into the double cog wheel accommodates itself to the variation of the rollers.

*Claim.*—First, the arrangement and combination of lever M, hinged to box A, roller L, rods K, levers I, and plate C, arranged to operate upper roller D, as set forth.

Second, the double cog wheel P P, arranged to operate in combination with double pinion S, for turning the rollers D D, substantially as described.

**66,363.**—IRA A. LIVINGSTON, Hornellsville, N. Y.—*Washing Machine*.—July 2, 1867.—The blocks are oscillated by cranks, and are pressed together by spiral springs on their axial rod. They may be held apart by cords passing through the box ends and connected to a treadle.

*Claim.*—First, the arrangement of a series of vibrating wash boards E E, operated by levers e e, in combination with double or triple cranks and fly-wheel motion, substantially as and for the purposes herein set forth.

Second, the rubbers E E, as constructed in combination with the rod F, springs f f, cords j j, pulleys i i, and foot-piece a, as and for the purpose described.

**66,364.**—WILLIAM R. LOOMIS, NELSON WELLS, HARMON HITCHCOCK, and SAMUEL G. STRYKER, Elmira, N. Y.—*Burning Fluid*.—July 2, 1867.—Explained by the claims.

*Claim.*—The manufacture for sale of a burning fluid (crystallized oil) made by adding to 40 gallons of naphtha 2 pounds of alum, 2 pounds common salt, 1 pound potash, and 4 ounces camphor gum finely pulverized, and half a pint of spirits of nitre.

Also, the use of potash, when it is combined with substantially the substances mentioned, for the purpose of making a burning fluid as described.

**66,365.**—ALBION H. LOWELL, Manchester, N. H.—*Soapstone Stove*.—July 2, 1867.—Explained by the claims and illustration.

*Claim.*—A metallic fire pot C, in combination with an outer casing of soapstone, placed at such a distance as to leave an air space between the two, suitable openings e, being provided at or near the bottom of the stove, to admit cold air to the lower portion of the fire pot, all constructed and operating substantially as and for the purpose set forth.

Also, the soapstone casing B B', held together by a series of bands a b, the latter, b, being so constructed and arranged as to have openings c for the admission of air, substantially as and for the purpose set forth.

**66,366.**—JOHN J. MARCY, West Meriden, Conn., assignor to E. MILLER & Co., same place.—*Lamp Shade Clasp*.—July 2, 1867.—The upper edge of the shade is clamped between two flaring rings. These are supported by spring arms which clasp the chimney.

*Claim.*—The combination of the two rings A and C with the spring B, when the said springs B are formed so as to hold the ring C, substantially as and for the purpose specified.

**66,367.**—ALVIN C. MASON, Boston, Mass., assignor to himself and H. H. MASON, Springfield, Vt.—*Clamp for Suspending Whips*.—July 2, 1867.—A clamp like a clothes pin is opened by a cord and catches the whip lash.

*Claim.*—A clamp for suspending whips, constructed with a pivoted or jointed jaw, one or more arranged so that the clamp may be opened by means of a cord or its equivalent to receive the upper end of a whip, substantially as shown and described.

**66,368.**—E. A. MATHIESSEN, Cornwall, N. Y.—*Gate*.—July 2, 1867.—The wheels of the carriage depress levers, and thus raise circular inclined planes, on which the gate arm is supported. The arm has an anti-friction roller, which descends the incline and the gate swings open. Counter weights restore the parts when the carriage has passed.



*Claim.*—First, the fixed double inclined plane *f*, and the two vertically moving inclined planes *g m*, in combination with each other and the laterally swinging gate *A*, substantially as and for the purpose specified.

Second, the laterally moving plate *n* and the weights or catches *b b\**, in combination with the levers which operate the inclined planes *g m*, whereby the gate is retained in an open position, substantially as herein set forth.

Third, the levers *h h\**, levers *i i\**, and vertical rods *k k\**, arranged in relation with each other and with the inclined planes *g m* and the arm *e* of the gate *A*, substantially as and for the purpose specified.

Fourth, the vertical bars *t*, levers *s*, and links *s\**, arranged with reference to each other and the lever *r* and plate *n*, whereby the said plate may be operated to hold and release the weights or catches *l l\**, substantially as herein set forth.

Fifth, the guides *D*, plates *w*, and aprons *x*, arranged in relation with each other and with the vertical rods *k k\** and bars *t*, substantially as herein set forth, for the purpose specified.

**66,369.**—FRANZ O. MATTHIESSEN, Jersey City, N. J.—*Sugar Crystalizing Tank or Wagon.*—July 2, 1867.—The vertical tubes through the "wagon" permit a circulation of air through the interior for the purpose of cooling the mass, or are closed by dampers when that effect is not desired.

*Claim.*—The combination with the tank or wagon of an air pipe or air pipes or tubes arranged to project through the body of the tank, and open at its or their ends with a valve or valves to exclude or control the circulation of air, substantially as and for the purpose or purposes specified.

**66,370.**—FRANZ O. MATTHIESSEN, Jersey City, N. J.—*Vacuum Pan for Boiling Sugar and Other Substances.*—July 2, 1867.—The liquid that is taken up with the vapor and condenses within the dome runs from the plates of the cap to the trough around the rim of the pan. It then passes to a pipe of a length greater than the height of a column of liquid supported by atmospheric pressure. This enables the withdrawal of said liquids without impairing the vacuum.

*Claim.*—The combination of an umbrella or cap or cover of open work construction, with the dome or cover to a vacuum pan constructed to form an escape outside of the boiling vessel for the condensed vapor, and provided with a Torricellian discharge pipe or tube, said umbrella being arranged within the dome and over the boiling vessel or chamber, essentially as and for the purpose herein set forth.

**66,371.**—GEORGE W. McCANN, Springfield, Ohio.—*Combined Measure, Funnel, and Faucet.*—July 2, 1867.—The funnel and faucet may be used jointly or separately. The liquid from the barrel is let first into the funnel, and the measuring slip indicates the amount. The spigot is turned to open the other channel and the liquid is discharged.

*Claim.*—First, the combined faucet and funnel herein described, constructed so that the same may be used in connection or separately.

Second, in combination with the funnel *D* the conical strainer *H*, constructed and arranged as set forth.

**66,372.**—MARK T. McCORMICK, Meadville, Pa.—*Drilling and Pumping Apparatus.*—July 2, 1867.—The drill rod is reciprocated by a lever operated by pins on a rotating wheel. The rod has a rotary motion by a sleeve upon it, whose bevel wheel engages the main driving wheel. The ram is connected to a rack bar, which is raised by a segmental rack on the driving wheel, and then allowed to fall upon the head of the drill rod.

*Claim.*—First, the ram *O*, in combination with the rack *N*, the segment *M*, and the wheels *H* and *X*, with the lever *D*, the swinging frame *E*, when the same are constructed as described for the purposes set forth.

Second, the pumping attachment described, Fig. 6, consisting of the frame *t t*, the pitman *i*, constructed as described, in combination with the drilling device, as described for the purposes set forth.

**66,373.**—JOHN S. MCINTIRE, Chicago, Ill.—*Sleigh Runners for Buggies.*—July 2, 1867.—The

wheels of the buggy are removed. The spindles are inserted in boxes attached beneath the faves of the sled, and rest by braces on the runners. Arms from the latter and from the boxes are fastened by clips and set screws to the axles.

*Claim.*—First, the pipe box *B*, provided with flanges *a* and arm *C*, constructed substantially as and for the purposes specified.

Second, the hook *D*, set screw *E*, and pipe box *B*, in combination with the axle *G* and runner *A*.

**66,374.**—JOHN McLAUGHLIN, Brooklyn, N. Y.—*Register.*—July 2, 1867.—Sheets of wire gauze are placed across the openings to prevent papers, &c., from dropping in.

*Claim.*—The screen *B*, to register, substantially as and for the purpose described.

**66,375.**—G. W. METCALFE, Hummelstown, Pa.—*Apparatus to Cure Horses of Cribbing.*—July 2, 1867.—The strap carries a semi-circular plate, which has a serrated plate beneath the throat protected ordinarily by springs, but which, when the horse's throat swells out in cribbing, give way and allow the points to come in contact with the skin.

*Claim.*—The combination of the bow *A*, spur *B*, and the two spring shields *C C*, constructed and arranged as and for the purpose herein specified.

**66,376.**—ABRAHAM MICHELbacher, New York, N. Y.—*Machine for Disintegrating Peat.*—July 2, 1867.—To reduce to a granulated condition upon the ground previous to pressing. The roller regulates the depth of penetration of the vibrating digging rake. The machine is guided by a caster roller.

*Claim.*—First, one or more vibrating digging rakes arranged upon a suitable carriage, substantially as and for the purpose herein set forth.

Second, the combination with a vibrating digging rake, constructed and operating as described, of an adjustable roller *E*, substantially as and for the purpose herein set forth.

Third, a caster wheel or roller operated by a lever *b*, and arranged in relation with the frame of the carriage and the vibrating digging rake or rakes, substantially as and for the purpose herein set forth.

Fourth, the crank shaft *F*, balance wheel *r*, pinion *n*, and driving gear wheel *A\**, arranged in relation with each other, and with the supporting wheels of the carriage and the vibrating digging rakes, substantially as and for the purpose herein set forth.

**66,377.**—THEODULE MORILLON and URSIN NAGUIN, Lafourche, La.—*Apparatus for Treating Cane Juice with Sulphurous Acid Gas.*—July 2, 1867.—Explained by the claim.

*Claim.*—A tight wooden box provided with pipes of induction and eduction for cane juice, and also with a pipe for introducing sulphurous gas therein to saturate the juice with sulphurous acid by mechanical agitation thereof, substantially as and for the purpose herein described.

**66,378.**—GUSTAV ADOLPH NEUMEYER, Altenburg, Germany.—*Powder for Fire Arms and for Blasting.*—July 2, 1867.—Composed of saltpetre, sublimed sulphur, and brown coal, mixed dry in a barrel, then aggregated by the addition of 15 per cent. of water, corned, sorted by sieves, and dried.

*Claim.*—A blasting and explosive powder when made of the ingredients and in the manner herein set forth.

**66,379.**—J. PALMER, Cleveland, Ohio.—*Roof for Railroad Cars.*—July 2, 1867.—The upturned edges of one strip are engaged by the down-turned edges of the strips on each side, and the junctions covered with cleats.

*Claim.*—The construction and arrangement of the metal plates or sheets *E*, when lapped or hooked continuously together, substantially as herein described and shown, in combination with the caps *F*, the cleats sheathing or resting surface *C*, cornice *D*, and car-bines or rafters *B*, all constructed and arranged substantially as and for the purpose herein set forth and described.

**66,380.**—C. H. PARKER and G. N. COPELAND, Cortland, N. Y., assignors to CHARLES H. PARKER,



same place.—*Drain for Waste Water.*—July 2, 1867.—The lower end of the pipe is armed with a point, and perforated to allow the exit of the liquid. It is driven into the ground, and its top has a strainer funnel.

*Claim.*—First, the conducting waste water or other liquids into the earth by means of the pipe *a*, or its equivalent, either down to water or to a strata of earth sufficiently porous to absorb or drain off such liquids.

Second, the pipe *a*, in combination with the conductor *c*, and strainer *d*, (where such strainer shall be necessary,) as and for the purposes above described.

**66,381.**—JOHN H. PARSONS, Quincy, Mich.—*Sealing-wax Stamps.*—July 2, 1867.—The adjustable table is regulated by its supporting screw. The seal is attached to a slide withdrawn by a spiral spring, the slide on its projection operating the moistener, which wets the seal. The lamp projects from the standard in a convenient position for melting the wax, which is deposited in a rack behind.

*Claim.*—The arrangement of the standard *A*, constructed with a lamp *n*, rack *E*, the adjustable table *C*, and moistener *k*, substantially as described and set forth.

**66,382.**—THOMAS PATTINSON, Little York, Cal.—*Water Wheel.*—July 2, 1867.—The wheel rotates in a close case and the water descends vertically on its radial buckets from a perpendicular nozzle in the penstock. The discharge chute of the case is sloped sufficiently to avoid the drag of back-water on the wheel.

*Claim.*—The construction and arrangement in the case *C* of the water-wheel *A*, provided with the buckets *c*, whose under sides *d* are beveled, the penstock *E* having supply pipe or tube *F*, and provided with the gate *H*, operated by the screw *I*, the removable discharge tube *G*, attached to its under side, whereby the water under static pressure is delivered in a perpendicular column upon the buckets *c*, substantially as herein shown and described.

**66,383.**—JOHN PEARD, New York, N. Y.—*Settee for School.*—July 2, 1867.—The ends of the seat are of cast-iron, with grooves for the ends of the boards forming the seats, back, and shelf. It may be fastened by brackets in the rear to a wall or step.

*Claim.*—First, a settee constructed of cast-iron side-pieces *A*, cast entire with seats or projections to form grooves to receive the ends of the plank seat *B*, and the lower plank *B*, and the ends of the planks or back strips *C C*, and also cast with lips *b c*, through which screws pass to secure said planks in position, substantially as and for the purpose specified.

Second, the fixed bracket *D*, cast with one or more of the side pieces *A*, substantially as and for the purpose specified.

Third, the adjustable or sliding bracket *E*, fitted on a dovetail cleat *d* of one of the side pieces, substantially as and for the purpose set forth.

**66,384.**—JOHN PEARD, New York, N. Y.—*School Settee and Desk.*—July 2, 1867.—The seat is pivoted at the rear, and supported in front by pins on its oscillating brace-rods, which slide in end slots of the seat, to allow of its being thrown upward and backward. The desk slides downward, behind the back of the seat, when desired.

*Claim.*—First, the sliding desk *E*, containing the metallic strips *a'*, arranged in the manner substantially as and for the purpose set forth.

Second, the seat *F*, provided with slotted metal bars or strips *f* at its ends, in combination with the pivoted supports *G G*, having pins *h* at their upper ends, to work in the slots of the bars or strips *f*, substantially as shown and described.

Third, the combination of the sliding desk *E* with the pivoted seat *F* and supports *G G* and the side pieces *A A*, all arranged substantially as and for the purpose specified.

Fourth, the book and slate racks *C D*, in combination with the desk *E*, pivoted seat *F*, and side pieces *A A*, substantially as and for the purpose set forth.

**66,385.**—JOHN PETTENGILL, Jr., Lisbon, N. H.—*Car Coupling.*—July 2, 1867.—The link is held between the elastic sides of the coupling-box, so as to

prevent rattling and present it in coupling position. The coupling pin rests on the upper arm of an elbow lever, which is pivoted to the coupling-box, and which is tripped by the entering link, to engage the pin with the latter.

*Claim.*—The combination of the box *A*, link *C*, springs *D*, and elbow plate *E*, with each other, all made and operating substantially as herein shown and described.

**66,386.**—S. PETTIBONE, Corunna, Mich.—*Straw Cutter.*—July 2, 1867.—A segmental rack on the knife lever operates the toothed arm connected to a lever by which the feed-roller pawls are actuated.

*Claim.*—First, operating the feed-rollers by means of a toothed arm *G* and cogs *F*, formed upon the hub of the knife lever *E*, substantially as herein shown and described.

Second, the combination of the ratchet wheels *O J*, the pawls *I N*, connecting rod *L*, and lever *H*, with the feed-rollers *K H*, and toothed arm *G*, substantially as herein shown and described, and for the purpose set forth.

Third, the combination of the adjustable guide arms *M S*, guide rods *T*, and coiled spring *U*, with the metallic side pieces *R*, and with the upper feed-roller *P*, substantially as herein shown and described, and for the purpose set forth.

**66,387.**—E. L. PRATT, Boston, Mass.—*Boiler Tube Scraper.*—July 2, 1867.—The central spindle moves longitudinally within the segmental sectional scrapers, expanding them after insertion by the projection on its surface. The action of the inclines against the springs of the scrapers causes a vibrating motion in the action of the same.

*Claim.*—In combination with a series of scraping blades arranged as described, a sliding rod by movement of which the scraping edges may be expanded or contracted when they are within a tube, substantially as described.

Also, in combination with the blades and their shanks and the movable rod, the springs upon which the shanks are cushioned when the blades are expanded, substantially as set forth.

**66,388.**—A. J. PURVIANCE, Mount Zion, Iowa, assignor to himself and J. A. MOSS, same place.—*Baling Press.*—July 2, 1867.—In the faster movements of the follower during the return stroke the gearing acts directly on the rack beam; but during the heaviest compression the gearing operates through a windlass and rope.

*Claim.*—First, the combination and arrangement of the sliding pinion *d*, rack beam *C*, spur wheel *i*, pinions *c g p*, sliding shaft *P*, spur wheel *f*, windlass *E*, swinging frame *R*, shaft *F*, loose block *G*, ropes *h i k'*, pulleys *z z*, roller *I I'*, constructed and operating in the manner as and for the purposes specified.

Second, the windlass *E*, in combination with the guide pulleys in the block *G*, the rope *r*, the adjustable frame *H*, and the rack beam *C*, arranged and applied to compress the bale, substantially in the manner herein described.

Third, the shifting levers *m* and *n*, in combination with the shifting shaft *P*, the shifting pinion *d*, and the rack *c*, constructed and applied substantially as and for the purposes herein set forth.

**66,389.**—JULIO H. RAE, Syracuse, N. Y.—*Ice Cream Freezer.*—July 2, 1867.—The beater revolves around an internal cylinder through which a freezing mixture is passed: the funnel, when inverted, forms the cover. The scrapers revolve in contact with the shells of the outer and inner cylinder.

*Claim.*—First, the combination of the open cylinder *C*, and raised bottom *A'* of the can *A*, substantially as described for the purpose specified.

Second, the beater *C*, with double spring scrapers *c c*, in combination with the can *A*, and internal cylinder *B*, constructed and operating substantially as and for the purpose set forth.

Third, the funnel cover *E*, in combination with the can *A*, and internal cylinder *B*, constructed and operating substantially as and for the purpose described.

**66,390.**—C. D. READ, Burlington, Vt.—*Bed Bottom.*—July 2, 1867.—Cylindrical blocks beneath the slats are embraced by the upper ends of the spiral



springs, whose bases are attached to cross rails near the head and foot of the bedstead. A pliable band is passed over the slats, its ends being engaged by hook nails in the rails.

*Claim.*—The combination and arrangement of the slat A, with blocks D and rail B, with its hooked nails  $x$  and  $d$ , with coil spring C, and strap  $a$ , when constructed and used in the manner and for the purposes specified.

**66,391.**—ISAAC C. RICHMOND, West Meriden, Conn., assignor to JAMES N. HOUGH, same place.—*Harness Hook.*—July 2, 1867.—The hook-point has a transverse segmental bar, concave toward the shank.

*Claim.*—A hook having the bar D formed upon the point of the hook, each end of the said bar extending down and partially around the shank of the hook, in the manner and so as to operate substantially as set forth.

**66,392.**—A. K. RIDER, Nazareth, Pa.—*Valve Gear for Steam Engines.*—July 2, 1867.—The sub-valve admits steam to the cylinder of the main slide-valve, to cause the throw of the same by pressure alternately upon the opposite ends of the said valve. The stem of the main valve is connected to an oscillating block whose movement is adjusted to regulate the throw of the valve.

*Claim.*—First, the combination with the reciprocating piston B and main valve controlling the same of a regulator so constructed and operating as not only to admit of the valve stroke being lengthened or shortened to change the speed or force of engine strokes, but also of being so varied in position relatively to the engine cylinder ports as to secure, when required, to the engine piston a more forcible stroke in one direction than the other, substantially as specified.

Second, the regulator to the engine cylinder valve, arranged and operating substantially as described.

Third, the arrangement of the sub-valve J, relatively to the main valve G, the one being controlled by the other, as specified, when said valve has a common inlet and exhaust, and are otherwise arranged for operation together, substantially as specified.

Fourth, the combination of the arm operated by the engine piston of the block N, lever O, spring  $r$ , to the sub-valve J, lever S, and detent lever P, operating in connection with the rests, lifting nuts, or stops to operate the sub-valve, as herein described.

Fifth, the combination with the engine piston of a sub-valve operated thereby, main valve controlled by the sub-valve and regulator governing the action of the main valve, essentially as and for the purpose or purposes herein set forth.

**66,393.**—NORMAN C. ROBERTS and EZRA W. BADGER, Fly Creek, N. Y.—*Device for Supporting Hop Vines.*—July 2, 1867.—The hop poles pass through the rings of the chain or wire which passes from one rigid post to another.

*Claim.*—The chain A secured to the post B, provided with rings C encircling the bearing poles D, in the manner and for the purpose represented and described.

**66,394.**—SAMUEL D. ROBERTS, Washington, La.—*Cotton Press.*—July 2, 1867.—Double rollers are operated by a capstan connected with drums, ropes, and pulleys, which work the follower within an ordinary packing box.

*Claim.*—The double lever H H, connected by toggles G G with the follower block F, in combination with the capstan I, the drums  $e e c$  and K, and the hoisting rope  $h$ , when employed in a baling press, arranged and operating substantially as herein described.

**66,395.**—WILLIAM BOBJOHN, New York, N. Y.—*Liquid Meter.*—July 2, 1867.—The meter is regulated for specified quantities, large or small; it stops automatically when the amount is received, closing the eduction; the amount is registered and the machine started. The devices are explained by the claims and illustration.

*Claim.*—First, the combination of the reciprocating piston G with its rod  $b$ , measuring cylinder E, with tight box or case I, and lever H, all for operation to-

gether and with outside mechanism, substantially as specified.

Second, the combination with the shaft  $c$  of the lever H, of the arm J, slotted bar K, lever L, double inclined plate M, and roller  $j$ , for operation together as herein set forth.

Third, the combination of the lever O, slotted bar P, provided with studs  $r$ , in mangled rack gear with a double toe Q, and driver  $q$ , furnished with teeth  $r$ , essentially as and for the purpose specified.

Fourth, the longitudinally-sliding spring borne wheel V, having an aperture  $x$ , in combination with a locking stop  $w$ , and geared with a stop-cock W, for control of the latter, substantially as herein set forth.

Fifth, the rod Y, operated as described, spring catch  $e^2$ , and stop-cock lever or handle controlled by a spring, all for operation together, essentially as and for the purpose or purposes specified.

**66,396.**—ADOLPH ROCK, Foxborough, Mass., and WILLIAM MOORHOUSE, Mansfield, Mass.—*Shoe Lacing.*—July 2, 1867.—Explained by the claim and illustration.

*Claim.*—The construction and arrangement of the shoe lacing, consisting of the grooved rollers B, pivoted between the arms A in such a manner that an opening C shall be left in said arm inside of said rollers, said arms secured opposite each other upon each side of the slit in the shoe or upon a frame D, substantially as described for the purpose specified.

**66,397.**—HIRAM ROSBROOK, Chicago, Ill.—*Steam Generator.*—July 2, 1867.—The steam chamber is traversed by vertical flues in form of truncated cones, surrounded by convoluted pipes which throw jets of water upon the sides of the flues to generate superheated steam, which passes to the cylinder. The water reservoir is placed in a chamber through which the caloric current passes.

*Claim.*—First, in a steam generator the use and employment of the tube F, for the purpose and in the manner substantially as described.

Second, combining the tube F with the flues C C C, in the manner substantially as described.

Third, combining the reservoir D, pipe F, and flues C C C, substantially as described.

**66,398.**—ANDREW ROTHWELL, Washington, D. C.—*Bedstead.*—July 2, 1867.—The recesses receiving the ends of the slats are deepened toward the mid-length of the bedstead to give a longitudinal down curve to the bed.

*Claim.*—So disposing the slats of bedsteads as to produce a curved depression therein adapted to the form of the human body, substantially as described and represented.

**66,399.**—WILLIAM T. ROUND, Middletown, Conn.—*Gun Hammer Gauge.*—July 2, 1867.—The gauge consists of two plates adjustably connected together, to be set to the required form and used as a template in forming the longitudinal outline of the hammer.

*Claim.*—A gun hammer gauge consisting of the plates A B and D, constructed and arranged so as to be adjustable, substantially as and for the purpose set forth.

**66,400.**—CHARLES H. SAWIN and J. A. TITUS, Worcester, Mass.—*Window Fastener.*—July 2, 1867.—The socket plate is let in flush with the face of the sash, and the spring thumb-piece which slips therein engages the face of the sash.

*Claim.*—First, the combination of the recessed holding plate with the bolt, under the arrangement herein described, so that while the locking end of the bolt slides under and parallel with the plate its opposite end shall project up so as to be flush with or to extend above the said plate, substantially as and for the purposes set forth.

Second, the combination of the bolt with its spring, formed in the manner herein specified, so that the bolt shall be both held in place and pressed forward by the action of the said spring, as and for the purposes set forth.

Third, the combination with the recessed holding plate of the sliding bolt and its spring, the whole being arranged for operation substantially as shown and described.



**66,401.**—JOHN SCHLEY, Savannah, Ga.—*Horse Power*.—July 2, 1867.—The sweep is connected to the tumbler shaft by a compact system of bevel gearing mentioned in the claim, and arranged to increase the speed.

*Claim.*—The arrangement of the vertical gear wheels K upon the horizontal shaft L secured to the vertical shaft M, and pivoted on the post D, meshing into the horizontal gear wheel H turning loosely upon the post D, said wheel H provided upon its under side with horizontal shafts b, upon which the vertical gear wheels G are supported, the latter meshing into the stationary wheel B and double-cogged revolving gear wheel A, substantially as described for the purpose specified.

**66,402.**—JOHN M. SCHWARTZ, Philadelphia, Pa.—*Vegetable Cutter*.—July 2, 1867.—The section of the plate before the fixed slicing knife has oscillatory adjustment to vary the thickness of the slices.

*Claim.*—The plate A, with its knife b, in combination with the adjustable plate A' and the set screw F, or its equivalent, the whole being constructed and operating substantially as described.

**66,403.**—A. J. SIMPSON, Washington, D. C.—*Clothes Line Holder*.—July 2, 1867.—The line is clamped between the hook and the serrated swinging segment.

*Claim.*—The clothes-line holder, consisting of the swinging lock C and hook B, constructed and arranged substantially as described.

**66,404.**—WILLIAM B. SMITH, Aberdeen, Ind.—*Baling Press*.—July 2, 1867.—One of the two followers is actuated by a beater, which has a weighted triangular frame connected to the follower by toggle levers, and oscillated by a cord, which is alternately wound on a capstan and then released therefrom. The followers are drawn back simultaneously by a single cord.

*Claim.*—First, the arrangement of the drums  $f^1 f^2$ , clutch  $h'$ , ropes  $g^1$  and  $g^2$ , pulleys  $f$  and  $g^3$ , lever G, and links  $b b$ , for the purpose of operating the follower B, substantially as and in the manner herein shown and described.

Second, the arrangement of the collar i, rope  $i'$ , pulleys  $i''$ , rocking frame I, weight M, and link c, for the purpose of operating the beater C, substantially in the manner herein shown and described.

Third, the combination of the collar l, projection  $l'$ , and catch K with the incline m, substantially in the manner and for the purpose herein shown and described.

**66,405.**—WILLIAM SNODGRASS, Macomb, Ill., as signor to himself and JAMES STATLER, same place.—*Wagon Hub Boring Machine*.—July 2, 1867.—The hub is clamped between the two conical parts of the centering chuck with which it is rotated. A screw rim of the chuck actuates the automatic feed of the tool rest.

*Claim.*—First, the laterally-adjustable frame having the chucks V Q mounted therein in combination with the cutting and feeding mechanism, arranged to operate as and for the purpose set forth.

Second, the cutter bar H, pivoted upon the front end of the carriage C, in combination with the screw rod E, mounted on the carriage and arranged to operate the cutter bar as described.

Third, the strap m or its equivalent arranged to unite the independent chucks V and Q for the purpose of causing both to revolve together when motion is applied to one, substantially as herein set forth.

Fourth, keeping the cutter bar to its work by means of the screw thread Q' on the chuck Q, wheel S', mounted on the shaft S and cord u attached to the carriage C, when said parts are arranged to operate as herein shown and described.

**66,406.**—DWIGHT S. SPAFFORD and GEORGE ELSEY, Morrison, Ill.—*Measuring Faucet*.—July 2, 1867.—The faucet has a tube within a sleeve, both having ports which may be brought in connection. The receiver is hinged on a steelyard, and the tilting of the same trips a weighted lever whose movement closes the faucet.

*Claim.*—First, the fixed and revolving barrels B<sup>1</sup> B<sup>2</sup> of a faucet when the latter is so connected with the

beam of a scale that when the beam rises, it shall disengage a catch and the faucet be caused to close automatically by mechanism substantially as set forth.

Second, the combination of the beam G, platform F, flanges D, lever E, and faucet B, with barrels B' and B'', substantially as described.

Third, a scale, beam G and faucet B, so arranged that the pivot of the beam shall have their bearings on flanges formed on the faucet, and the beam and faucet shall be so connected by intermediate mechanism that the rising of the beam shall cause the faucet to be closed automatically, all substantially as described.

**66,407.**—SAMUEL B. SPAULDING, Brandon, Vt.—*Manufacture of Bricks*.—July 2, 1867.—The bricks are faced after molding, and before baking, with a wet composition of clay and ocher or equivalent. The edges of the bricks are rubbed in the paste and the iron becomes oxidized in the kiln, giving the face a good red color.

*Claim.*—The composition for the paste and the manner of its application for the purposes herein set forth.

**66,408.**—A. J. SPRAGUE, Toledo, Ohio, assignor to himself and PAUL JONES, same place.—*Brick Machine*.—July 2, 1867.—Between the pug mill and the press box and at the bottom of the latter are grates to arrest stones. The earth is forced into the molds by a rotating curved cam-plate. The molds are placed on the frame and automatically forwarded beneath the press box.

*Claim.*—First, the rotary presser G arranged within the press box F to operate in the manner substantially as and for the purpose set forth.

Second, the grating E, placed over the opening b, in the bottom of the mud-mill B, substantially as and for the purpose specified.

Third, operating the mold-feeding plate U through the medium of the revolving arms Z Z on the shaft H, the uprights Y on the bars W W, and the spring A' or its equivalent, all arranged substantially as shown and described.

**66,409.**—OTIS W. STEARNS, Lebanon, N. H.—*Wood Bending Machine*.—July 2, 1867.—The snath is bent by sectional pressers operated by cams.

*Claim.*—First the connected presses b and b' with their heads d and d' e and e' arranged as described and operated upon by cams B or their equivalents so as to be moved in concert for receiving a straight stick between them and bending it into shape for a seythe snath, substantially as herein described.

Second, the sliding frame E, with vertical followers n, constructed and arranged substantially as and for the purposes herein specified.

Third, the double clamp F, in combination with the iron mold r, arranged and operating substantially as and for the purposes herein set forth.

Fourth, the combination of the cams B, the presses b b', the followers n, and the lever clamps D, constructed, arranged, and operating in the manner and for the purposes herein described.

**66,410.**—WILLIAM STENGER and ALOIS BEYRNHEIMER, Jefferson, Ohio.—*Bed Bottom*.—July 2, 1867.—The loops have an eye through which the knots may be run, a contracted part engaging the same. The rubber bands are passed into longitudinal slots in the rails and are retained by wedges.

*Claim.*—The loops a a, bands i i, and wedges x x, when used upon the bedstead frame in combination with the cords z and y in the manner substantially as and for the purposes set forth.

**66,411.**—BENJAMIN D. STEVENS, Decorah, Iowa, assignor to himself and CHARLES GILL, Exeter, N. H.—*Machine for forming Sheet Metal Pans*.—July 2, 1867.—The edge of the blank is inserted to the guide pins in the groove of the clamp bar, and the outer ends of these pins enter holes in the bed piece as dowels. The bend is made by raising the forming bar.

*Claim.*—The combination and arrangement of the bed piece B and the clamp bar A and forming bar C hinged to said bed piece on opposite sides thereof, substantially as and for the purpose herein specified.

Also hinging separate clamp bars A and F to the



same bed piece B, for forming sides of different lengths, as herein set forth.

Also, the gauge pins *c c* applied in combination with the grooved clamp bars A for the purpose specified.

**66,412.**—GEORGE W. SWARTZ, Newburgh, Pa.—*Hay Raker and Loader.*—July 2, 1867.—The loader which inclines over the rack is coupled to the hounds. The rake teeth held in position by guides are connected by pivoted rods to the crank lever operated by the handle in reach from the load. The teeth gather and project the hay onto the hooks of the endless belts that revolve around drums actuated by the supporting wheels and deliver the hay over a slide onto the load.

*Claim.*—First, the coupling or staple C and keys C', for attaching the loader to a wagon, substantially as described.

Second, the looped and curved double rake teeth H, in combination with the guide A<sup>2</sup>, and the drum E, substantially as and for the purpose described.

Third, the rope or cord L, for attaching the rake teeth H to their adjusting rod K, as and for the purpose specified.

**66,413.**—S. C. TALCOTT, Ashtabula, Ohio.—*Button Hole for Carriages.*—July 2, 1867.—The elastic disk is held to its place on the curtain by two washers, one of which has lips to lap on the edge of the opening in the curtain.

*Claim.*—First, the washer A, provided with the arms E, disk B, and serrated washer C, arranged in the manner and for the purpose substantially as set forth.

Second, a washer, figure 3, in combination with the disk B, substantially as described and applied to the purpose set forth.

Third, the serrated washer C, in combination with the disk B, when applied to the purpose in the manner specified.

**66,414.**—LEWIS THIERRY and GEORGE B. HILL, Detroit, Mich.—*Machine for Making Hot Pressed Nuts.*—July 2, 1867.—The bar of heated iron is automatically fed to the cutters, pressers, and punches, which are operated by cams on rotating shafts.

*Claim.*—The combination of the die, clamps, cutter slides, hollow plungers, and center punch, or equivalents, constructed and arranged substantially as described.

**66,415.**—JOHN HOPKINS THOMAS, Rochester, N. Y.—*Beehive.*—July 2, 1867.—The movable comb-frames rest on beveled edges to prevent fastening by wax. Projecting stops separate the frames. The sliding gauge adjusts the size of the entrance. The platform when lowered behind forms an inclined entrance for hiving a swarm.

*Claim.*—First, the use of the beveled bearings *d d d*, in combination with the upright projecting stops *a a a*, constructed in the manner and for the purpose herein set forth.

Second, the use of the back entrance in combination with the sliding gauge for the purpose herein set forth.

**66,416.**—JOHN THOMPSON, Hartville, Ohio.—*Churning Apparatus.*—July 2, 1867.—The barrel is disconnected from the gearing for winding up the weight whose cord passes over a sheave attached to the ceiling. When connected, the rotation of the barrel causes that of the double crank shaft and consequent reciprocation of the dashers.

*Claim.*—The use of the double crank shaft Q, in combination with the connecting rods R and S, and the working beams D and E, when said crank shaft is operated by wheel work, cord and weight, in the manner and for the purpose specified.

**66,417.**—JAMES P. THORP, Southington, Conn.—*Device for Tethering Animals.*—July 2, 1867.—The hitching cord is wound on a reel by the action of the weights upon the reel shaft. The reel is journaled in a frame attached to the stake.

*Claim.*—The frame B, fitted on the stake A, so that it may turn loosely thereon, in combination with the shaft C, fitted in the upper part of said frame, and having the reel D upon it, with halter rope G attached, the shaft C also having the ropes E E ap-

plied, with weight F F at their ends, and all arranged substantially in the manner as and for the purpose set forth.

**66,418.**—DANIEL J. TITTLE, Albany, N. Y., assignor to ABBIE M. LITTLE.—*Car Coupling.*—July 2, 1867.—The draw-head is hinged so as to move laterally in coupling or uncoupling, and is attached to a sliding draw-bar which is moved by a lever to throw it forward and assist in uncoupling. A lever, rack, and laterally sliding bar, move or restrain the lateral motion of the draw-head.

*Claim.*—First, the lever *e*, fulcrum *f*, and the rod or chain *g*, or both, in combination with the rack wheel shaft *s*, as and for the purpose described.

Second, the lever *h*, the rack *h'*, and the rack *i*, in combination with the shifting bar *k*, for the purpose set forth and described.

Third, the hinged draft bar *a a*, in combination with the lever *e*, fulcrum *f*, rod or chain *g*, or both, operated by the lever *h*, or rack wheel shaft *s*, as and for the purposes described.

Fourth, the hook head covering perforated as described, in combination with the elevis O, or its equivalent, as and for the purpose set forth and described.

**66,419.**—LESTER TRAXLER, Butler, Ohio.—*Safety Bridge for Railroad Cars.*—July 2, 1867.—The hinged rods of the platforms have segmental heads which are contained in recesses of the brackets in such a manner as to prevent detachment of the shutters when horizontally extended, but to allow their removal when vertical; the lower shutter is supported by set screws in a hinged bracket.

*Claim.*—Forming a passage way between the cars of a train by means of the wings B, boxes D, and adjusting block and screw E F, the parts constructed and arranged substantially as herein shown and described, for the purpose set forth.

**66,420.**—JOHN E. TREAT, Oxford, Mich.—*Extension Fruit Ladder.*—July 2, 1867.—The rear piece is pivoted to the main portion, and forms either a support, as a step ladder, or may be used as an extension of the lower piece, being secured in its extended position by hooks.

*Claim.*—The hinged brace C, when arranged with the pieces *a a* and steps A, journaled thereto, in the manner and for the purpose herein specified.

**66,421.**—CORNELIUS TREXLER, La Grange, Ind.—*Gate.*—July 2, 1867.—The gate slides back on the anti-friction pulleys attached to the posts, the extension rod at its open end retaining it in position until the hinged coupling reaches the main post, when the front section swings round. The projecting bars entering slots in the latch post retain the gate in position, a drop catch preventing its withdrawal.

*Claim.*—The combination and arrangement of the gates D and E, constructed as described, gate posts A and B, bars *a*<sup>1</sup> and *b*<sup>1</sup>, pulleys C<sup>1</sup> C<sup>2</sup>, and projecting bar *e*<sup>3</sup>, with each other, substantially in the manner herein shown and described and for the purpose set forth.

**66,422.**—EDWARD M. TROTH, New York, N. Y.—*Rock Drilling Machine.*—July 2, 1867.—The drill-holder and ram are respectively adapted for drilling or splitting. The cushions reduce the jar on the machinery. The rotating tube has an operating wheel, and may be coupled to the piston rod of the ram-driving engine. The gear may be adjusted to secure the feed of the drills, their picking action, or the throw of the ram. Eccentric bearing wheels adjust and hold the machine to its work.

*Claim.*—First, the combination, in the one machine, of separate engines for independent action of a combined drill holder and ram, substantially as specified.

Second, the combination of the sliding box L, rotating tube J, and ram or drill holder M, for operation together as herein set forth.

Third, the cushions *h*, when applied at or near opposite ends of the sliding box L, substantially as specified.

Fourth, the combination of the wheel K, tube J, and piston rod I, provided with a coupling *a*, for operation together as herein set forth.

Fifth, the combination of the sliding box L, of the



screw S, screw box R, and clutch box or frame A, or other equivalent gear, whereby the feed of the drills is established, a short picking action given to the same, or a distinct ramming stroke or action produced, essentially as specified.

Sixth, the application to the frames A and B of the eccentrics V, substantially as and for the purposes described.

**66,423.**—HIRAM TURNER, Ripon, Wis.—*Gate*.—July 2, 1867.—The hinged crane regulates the altitude of the gate, the attachment screw adjusting in a slot in the middle brace.

*Claim.*—The combination of the hinged part or crane B, and adjustable part C, with each other, said parts being constructed and arranged substantially in the manner herein shown and described.

**66,424.**—LAFAYETTE TURNER, Cedar Rapids, Iowa.—*Bag Holder*.—July 2, 1867.—The upper edge of the bag is lapped over the ends of the extensible frame, which holds the mouth open.

*Claim.*—An adjustable folding and gathering bag holder having its frame so connected by bars hung upon pivots as to enable its sides to lie upon each other when closed, and furnished on one side with an adjustable hinged cross piece or bar to stretch the frame, substantially as shown and described.

**66,425.**—F. J. VANDERVINNE, Brussels, Belgium.—*Excavator or Digging Machine*.—The earth is dug by two sets of revolving picks and thrown into the buckets of an earth elevator. The machine is on wheels, which are rotated by the same engine which operates the picks and elevators.

*Claim.*—First, the general arrangement and construction of an excavating or digging machine, as hereinbefore described and represented in the accompanying drawings.

Second, the peculiar arrangement and construction of the picks, in combination with the endless chain carrying the troughs, and mechanism for working the same, as hereinbefore described and represented in the accompanying drawings.

**66,426.**—FRANCIS VAN DOREN, Adrian, Mich.—*Dray*.—July 2, 1867.—The bed of the dray has rollers to assist in loading and discharging, and may be itself slipped from the dray frame when a locking bar is withdrawn.

*Claim.*—First, the platform E, when provided with rollers F, in the manner set forth, in combination with the dray frame A, substantially as and for the purpose herein shown and described.

Second, having rollers F F arranged on the surface of a dray, for the purpose of facilitating the loading and unloading of the same, substantially as set forth.

Third, a dray when so made that its platform or bearing portion is made in the shape of a detachable skid, substantially as set forth.

**66,427.**—T. VAN KANNEL, Cincinnati, Ohio.—*Cider Mill*.—July 2, 1867.—The two beveled disks are coupled face to face within a triangular hopper. Concentric circles of teeth are formed on the faces, fitting and gearing into corresponding cavities in each other.

*Claim.*—Providing the cones or beveled disks I I' with a series of concentric circles of teeth meshing or gearing into a corresponding series of cavities upon each, as herein set forth for the purpose specified.

**66,428.**—THOMAS GEORGE WALKER, New York, N. Y.—*Drying and Preparing Peat*.—July 2, 1867.—The peat is heated in the branch pipe or retort, and the piston is depressed, opening communication between the retort and cylinder, the peat enters the latter by pressure of the vapors, which pass off through an opening, and the peat is compressed against the cylinder head, which is detached for its removal.

*Claim.*—Subjecting peat and other substances, when confined in a close retort to a high degree of heat or to any requisite temperature, and then opening a communication between the retort and another vessel, the interior of which other vessel being either under a lower pressure than the retort or a vacuum, and from such vessels allowing the vapors and volatile portions to escape, substantially as described.

**66,429.**—WILLIAM H. WALTON, Brooklyn, N. Y.—*Machine for Making Paper Collars*.—July 2, 1867.—The circular knives are mounted on a shaft, and adjusted to the required width of the strips, which are unwound from the reel, and are passed between the embossing and cutting cylinders. The curved knife on the periphery of the cylinder shapes the corners, and the straight knife, set with its edge running parallel to the axis of the cylinder, severs the collars. A spring regulates the pressure of the knives on the paper.

*Claim.*—First, in combination with the cylinders *e* and *f*, the curved knife *g*, the straight knife *h*, and the spring *g'*, all constructed, arranged, and operating substantially as described.

Second, the folding conductor *m*, constructed, arranged in the machine, and operating substantially as described.

Third, in combination the rollers *e f*, provided with forming and severing knives *g h*, and suitable devices for embossing or stamping the folding conductor and forming rollers, all constructed and arranged substantially as described, and so geared as to make and finish collars by one continuous, rotating, progressive movement of machinery, forming a collar at each revolution of the said cylinders *e* and *f*.

**66,430.**—HIRAM L. WANZER, Clyde, Ohio.—*Pitman Connection for Harvesters*.—July 2, 1867.—The wrist pin connecting the cutter-bar pitman to its working disk has a frusto-pyramidal part entering the said disk, and an eccentric pin for connection to the pitman. By this means the pin may be removed from the disk, and inserted differently to vary the throw. The pin connecting the pitman to the cutter bar has a diametric packing plate, which may give way to a thicker one to avoid lost motion and rattle.

*Claim.*—The pin *i*, in combination with the packing *k*, all made and operating substantially as and for the purpose herein shown and described.

**66,431.**—H. W. WARNER, Watertown, Conn.—*Holder for Brooms*.—July 2, 1867.—The pivoted curved arms, connected with a plate attached to the wall, are actuated by a spiral spring to embrace the handle of the broom.

*Claim.*—The improved holder herein described, the same consisting of the plate B, or its equivalent, and arms G G hung therein, and arranged substantially as and for the purpose described.

**66,432.**—ABRAM WESTBROOK and JUSTIN CAMPBELL, Leona, Pa.—*Composition for Tanning*.—July 2, 1867.—Composed of water, 10 galls.; starch,  $\frac{1}{2}$  lb.; extract of licorice, 1 lb.; salt, 7 lbs.; and sulphuric acid,  $2\frac{1}{2}$  lbs.

*Claim.*—First, the application of licorice for tanning purposes, for the purpose set forth.

Second, the composition for tanning leather, when the same is compounded of the ingredients in about the proportions set forth.

**66,433.**—TIMOTHY B. WHITE, New Brighton, Pa.—*Iron Bridge*.—July 2, 1867.—The outer flanges of the side plates lap over the edge of the lower one and the upper part of the side plates enter between outer flanges and inner ribs of the upper plate.

*Claim.*—A tubular iron beam, consisting of the upper plate *a*, with the external flange *e*, the side plates *b*, provided at their lower edges with similar flanges *e* and the lower plate *c*, all constructed and united as described.

**66,434.**—L. P. WILCOX, Brooklyn, N. Y.—*Attaching Tools to their Handles*.—July 2, 1867.—The handle has a longitudinal slot, and is clamped on the tool shank by the tapering ferrule.

*Claim.*—The wood stock or handle A, constructed with its one end *a*, tapering and slotted longitudinally as at *c*, in combination with the tapering, sliding ferrule B, substantially as and for the purpose set forth.

**66,435.**—PARKER WINEMAN, Minooka, Ill.—*Preventing Corrosion at the Joints of Steam Boiler Flues*.—July 2, 1867.—Explained by the claim.

*Claim.*—A boiler tube or flue having its end or ends coated or covered with a metal, which is less



corredible than the metal of which the tube or flue is made, substantially as described.

**66,436.**—LORENZ WOLF, St. Jacob, Ill.—*Punch*.—July 2, 1867.—The socket for the shank of the punch is formed by a groove in the face of the standard, and a cap piece secured by set screws. Springs are interposed between the cap and the flanges of the standard.

*Claim.*—The grooved cap D, curved and grooved standard B, screws *b b* and springs *d d*, in combination with the punch and die, all as set forth.

**66,437.**—J. E. WOOTTEN, Reading, Pa., assignor to himself, C. E. BYERS, and W. WHARTON, Jr.—*Railway Chair*.—July 2, 1867.—The chair plate rests on two ties, and has a central vertical rib entering a mortise in the ties. The base flange of the rail passes beneath a lip on one side, and is held by a rib and bolts, with the usual spikes on the other side.

*Claim.*—The roller bar B, with its under rib *b*, side rib *c* and bent flange *d*, when the said ribs are constructed and arranged as described.

**66,438.**—WILLIAM YOUNG, Easton, Pa.—*Steam Generator*.—July 2, 1867.—The heater is segmental in form, and partially surrounds the flue. It is over the fire box, and between the upper and lower sections of the generator.

*Claim.*—The water heater D, arranged with reference to the fire box B, the flue G and the steam chamber C, for the purpose set forth.

**66,439.**—J. J. ZINN, Albion, Pa.—*Machine for furrowing Mill Stones*.—July 2, 1867.—The socket rod is extensible in the vibrating bar by the sleeve nut, which has revolution but not extension on the said bar.

*Claim.*—First, the vibrating bar *c* and the guide bar *b* combined with the bed plate A, substantially as and for the purpose herein described.

Second, the pick handle *d*, with the taper socket *g*, in combination with the nut *e* and the hollow end of the arm *c*, constructed and operating substantially as and for the purposes described.

**66,440.**—WILLIAM W. ABBOTT, Boston, Mass.—*Sewing Machine*.—July 9, 1867.—The lock stitch is made by carrying the upper thread around the lower spool case in the usual manner. The lock chain stitch is made by the use of the hooked plate. By omitting the lower thread the single thread chain stitch is formed. The reversal of feed is caused by shifting a lever so as to slide the feed-moving cams on their shaft and bring either into play at option, the incline in the spring serving to bring the feed bar into proper relation to the cams.

*Claim.*—First, the movable plate *m* or its equivalent, in combination with the revolving cup Z, the hook *h*, when so constructed and arranged as to form the lock stitch, the embroidery stitch, and single chain stitch, at the will of the operator, substantially as set forth and for the purpose described.

Second, an elastic metallic take-up upon the revolving cup Z, constructed and operating substantially as set forth for the purpose specified.

Third, the combination of a sliding collar with cams 1 2 and 3, and annular grooves 4, with pin *b*, lever W, and spring V, and pins U, for changing or reversing the feed motions of sewing machines as described.

Fourth, the combination of the stationary take-up *i* with an elastic metallic revolving take-up *s*, as set forth, for the purpose specified.

Fifth, the combination of a spool case and a grooved and slotted cup with its hook and movable plate *m*, for purposes specified, as described.

**66,441.**—LEWIS ALLEN, Berkley Springs, West Va.—*Broom Head*.—July 9, 1867.—The head is made of leather. A confining band is held in sockets of side extensions from the upper part. The band and upper part are perforated for passage of the sewing twine, which is applied after the cord has been drawn in by the cross bar.

*Claim.*—The handle with its cross piece B pinned in the mortise at right angles to the handle, in combination with the perforated leather stock C and perforated leather band E, retained by the recesses *d*, in

the extension D of the socket, substantially as described.

**66,442.**—F. A. BALCH, Hingham, Wis.—*Clothes or Towel Rack*.—July 9, 1867.—The bars are pivoted to a bracket so as to admit of oscillation, and admit of being folded to the wall or extended therefrom.

*Claim.*—Constructing a folding clothes rack with bars moving horizontally on a single pivot, with the ledges G behind said pivot, which will support said bars in a horizontal position equally well whether partially or wholly extended, as set forth and described.

Also, in combination with the folding bars A, frame B, plates C D, and pivot E, the ledges G G, as set forth and described.

**66,443.**—W. H. BALDWIN and J. H. BLAKE, Brandon, Vt.—*Railway Chair*.—July 9, 1867.—The chair has extensions to adjoining ties, and its wedge-shaped lips receive correspondingly shaped gibs on each side of the adjoining rails. The under surface of the gibs have projections which drop into slots in the flanges of the rails.

*Claim.*—The combination of the extension ribs *b<sup>1</sup>*, the rigid wedge gib *c* having lips *c<sup>1</sup>*, the chair A, with wedge lips *b*, and rails *d*, having receiving slots *d<sup>1</sup>*, when the parts are constructed, arranged, and operating as herein represented and described.

**66,444.**—B. H. BARTOL, Philadelphia, Pa.—*Cover for Gas Retorts*.—July 9, 1867.—Explained by the claim and illustration.

*Claim.*—As a new article of manufacture the within described retort cover, made of plate iron, depressed in the middle and provided with a wrought-iron rib *b* at the back, with a central rivet or stud *e*, all substantially as described.

**66,445.**—WM. D. BAUGHN, Milford, Mich.—*Churning and Working Butter*.—July 9, 1867.—The crank shaft is rotated by a winch, and has crank connection to the walking beam, whose pitman carries the stamping block. The pitman passes through a crown gear disk, which carries a scraper foot and is rotated by the spur wheel on the crank. The butter is laid on a circular, recessed table.

*Claim.*—The arrangement and combination of the plow or scraper M, the cog wheel I, the standard K and rod N, and the beater O, all arranged substantially as described for the purpose designed.

**66,446.**—WM. W. BEACH, New York, N. Y.—*Mucilage Brush*.—July 9, 1867.—The brush is in the end of a tubular handle with a small hole at its upper end, through which the air may be exhausted to introduce mucilage into the tube through a pipe placed centrally in the brush. The handle passes through a caoutchouc stopper.

*Claim.*—A mucilage brush formed with a tubular handle, into one end of which the brush is secured, and supplied with mucilage in the manner specified.

Also, the elastic stopper or cover fitted to slide upon the tubular handle, in combination with the brush and fountain, as and for the purposes specified.

A tubular handle for a fountain brush in which the hairs or bristles are entered within the lower end of such tube, and provided with a tube passing through said bristles to allow the liquid or semi-liquid in the fountain to pass to the brush, as set forth.

A mucilage or fountain brush formed of a glass tube composing the handle, an air hole in the same, and a brush entered within or secured to the end of said glass tube, as set forth.

**66,447.**—WILLIAM W. BEACH, New York, N. Y.—*Mucilage Bottle*.—July 9, 1867.—The brush is inserted in an annular cavity of the screw stopper, and is supplied by a central opening communicating with the mucilage. The bottle when not used is inverted in a receptacle containing mucilage.

*Claim.*—A fountain brush for mucilage formed substantially as shown, with a brush at the mouth of the fountain and an opening through the same into the fountain, as and for the purposes specified.

Also, the receptacle *d* in combination with the fountain *a* and brush *b*, substantially as and for the purposes set forth.

Also, the fountain for mucilage in combination with



a brush that is removable from said fountain so as to be changed, for the purposes and as set forth.

**66,448.**—WM. W. BEACH, New York, N. Y.—*Inkstand and Mucilage Holder Combined.*—July 9, 1867.—A receptacle containing an inverted mucilage bottle, as mentioned in the case immediately preceding, has a screw thread by which it is adjustable in the top of an inkstand to raise or lower the ink surface in an outer dip cup.

*Claim.*—A mucilage receptacle and inkstand combined, substantially as and for the purposes set forth.

Also, the displacer *d*, formed with a screw on the outside for adjusting said displacer in the ink, and a cup on its inside for the reception of mucilage, substantially as set forth.

**66,449.**—WM. W. BEACH, New York, N. Y.—*Mucilage Holder.*—July 9, 1867.—The mucilage bottle has an outwardly projecting brush in the stopper, with a central screw opening for reception of a screw rod by which it is depressed into the mucilage when not in use. The said rod carries a cap to cover the opening left in the stopper by depression of the brush.

*Claim.*—A mucilage holder and brush, fitted as specified, so that the brush, when not in use, is pressed down into the mucilage, and when in position for use is projected from the holder, as set forth.

**66,450.**—C. F. and F. BLOOD, Gravesville, Wis.—*Washing and Wringing Machine.*—July 9, 1867.—The wringer withdraws the clothes from the tubs and wrings them. The bed is in sections which yield independently to inequalities in the thickness of the clothes. The parts to which the rubber is attached may be folded with it in the washing box.

*Claim.*—First, the fluted springing pieces *B*, arranged and operating substantially in the manner hereinbefore described and for the purpose specified.

Second, the combination of the suspending post *H*, with the box *A*, by means of the hinge *f*, pin *h*, and screw *i*, substantially in the manner and for the purposes above set forth.

Third, the combination and arrangement of the rollers *I* and *I'*, with the bed *B*, for the double purpose of drawing the clothes from the latter, when washed, and wringing them at one operation, substantially as described.

**66,451.**—AZRO M. BOWLES and HIRAM PRESTON, Oxfordville, Wis.—*Water Elevator.*—July 9, 1867.—The band has a pawl and ratchet wheel which prevent its backward rotation. The pawl is raised and a brake put in operation by a lever which, when down is engaged by a drop button.

*Claim.*—The combination and arrangement of the pawl *g*, the ratchet on the shafts *B*, the brake *E*, and lever *F*, and button *a*, to operate as described and set forth.

**66,452.**—JOHN F. BOYNTON, Syracuse, N. Y.—*Converting Iron into Steel.*—July 9, 1867.—Explained by the claim.

*Claim.*—The herein described method of converting iron into steel by passing over or through it, in a close oven or retort, and while in a highly heated state, a current of carburized or carbonized gas, and at the same time dropping into the oven solid cyanides or solid ammoniacal compounds, substantially as described.

**66,453.**—JOHN F. BOYNTON, Syracuse, N. Y.—*Insulator for Telegraphs.*—July 9, 1867.—The cap is in form of an inverted cap and the moisture drips from its edge, keeping the inner part dry to prevent conduction by a coat of moisture on the insulator. The slot receives the conducting wire, and the diametric hole a binding wire.

*Claim.*—First, supporting an insulating cap, the whole material of which is a non-conductor, by a non-conducting pin, when such pin is constructed separately from the cap, substantially as shown and described.

Second, securing a non-conducting pin to an insulating cap, both of which are composed entirely of non-conducting materials, by an insulating cement, as herein set forth.

Third, securing a non-conducting pin, composed entirely of non-conducting material, to the cross arm,

bracket, or telegraph pole, by an insulating cement, as set forth.

Fourth, the combination of a non-conducting pin, composed entirely of a non-conducting material, with the slot *A*, and binding wire hole *B*, substantially as herein set forth.

**66,454.**—JOHN W. BREWSTER, West Lawrence, N. Y.—*Farm Gate.*—July 9, 1867.—The doubly beveled rail on which the grooved gate-rollers run is supported by blocks attached to the posts by straps and wedges so as to render them vertically adjustable.

*Claim.*—First, the double track rail *C*, when made adjustable, substantially as described and for the purposes set forth.

Second, the blocks *e e e*, bands or clasps *f*, and keys *h*, when used and combined with the posts *B*, to operate as and for the purposes specified.

**66,455.**—ELISHA BRIGGS, Sr., Fayette, Iowa.—*Corn Husker and Stalk Cutter.*—July 9, 1867.—The butts of the stalks are fed between the corrugated rollers, which crush the stalk and pinch off the ears from the rollers; the crushed stalk passes to the cutter.

*Claim.*—The combination and arrangement of the main driving shaft and pulley *A*, the gears *B B*, the corrugated crushers *C C*, the pulley and journal *D*, the cutters *E E*, the driving pulley *H*, the feed table *F*, the belt *V*, the boxes *I I I I*, the frame *K*, the legs *L L*, the lever *O*, and the bearing rollers *T T*, arranged substantially as described, for the purpose designed.

**66,456.**—ELISHA BRIGGS, Sr., Fayette, Iowa.—*Water Wheel.*—July 9, 1867.—The float is moved in the current, which acts on the valves working in frames attached to the endless apron.

*Claim.*—The arrangement and combination of the floats *A A A*, &c., with the valves *a a a*, &c., upon the endless apron *B B*, carrying the pulleys *E E* and the chains *K K*, with the braces *H H*, the wings *D D*, the hitching bars *F F*, the bolts *N N*, and the slots *I I*, and the whole attached and floated upon the frame or raft *C C*, all substantially as and for the purposes described.

**66,457.**—O. M. BROOKS and R. W. SOPER, Janesville, Wis.—*Burglar Alarm.*—July 9, 1867.—Explained by the claims and illustration.

*Claim.*—First, the construction and arrangement of a burglar alarm in such a manner that the movement, by the burglar, of the tripping lever *G*, that is inserted in the keyhole of the door to be guarded, shall cause a match to be lighted and a cap or a charge of powder in an attached barrel to be fired, substantially as and for the purpose described.

Second, the combination and arrangement of the tripping lever *G* with the dog *H* and hammer *B*, substantially as and for the purpose set forth.

Third, the match holder *D F*, when constructed as described, and used to adjust a match either in front of the vent *k* or the orifice *u*, substantially as and for the purpose described.

Fourth, the combination and arrangement of the hammer *B*, nipple *S*, and part *C'*, with the match holder *D F*, in such a manner that the hammer does not strike the match but fires it by the explosion of the cap, substantially as and for the purpose described.

Fifth, the combination and arrangement of the hammer *B*, nipple *S*, part *C'*, barrel *C*, and match holder *D F*, substantially as and for the purpose set forth.

Sixth, securing a burglar alarm in the keyhole of a door by means of the screw button *d i*, substantially as and for the purpose set forth.

**66,458.**—FREDERICK BROWN, Detroit, Mich.—*Hanging Mirrors.*—July 9, 1867.—The reflector has a horizontal rod which passes through a vertical stem, whose lower end is adjustable in a sleeve removably attached to the window framing.

*Claim.*—The hollow standard *B*, with the opening *V*, the slot *W*, and the spiral spring *O*, the stem *D*, with the set screw *T* and the arm *F*, arranged substantially as and for the purpose specified.

Second, the combination and arrangement of the hollow standard *B*, the stem *D*, the arm *F*, the mirror or reflector *H*, the spiral spring *O*, the hollow screws *K K*, the screws *L L*, provided with the slots *d d*, the



thumb serves N R T, the hooks P P, the opening V, the slot W, and the gains *a a*, all arranged substantially as described for the purpose specified.

**66,459.**—SAMUEL G. CABELL, Quincy, Ill.—*Atmospheric Alarm Whistle*.—July 9, 1867.—A whistle is sounded by the alternate eduction and induction of air from or into an annular chamber, which is partially filled with water and oscillated by the motion of the vessel, assisted by other power, if necessary. The motion may be made to work an air pump to increase the energy of the blast, or its effectiveness may be augmented by gas, generated by chemical action in the chamber.

*Claim.*—First, the chamber D, when constructed so that the air chambers *b b*<sup>1</sup> thereof communicate by means of valves *c c*<sup>1</sup> on either side of a dividing plate *a*, with the whistle J, for operation substantially as set forth.

Second, the arrangement and combination of the vacuum whistles *d d*<sup>1</sup>, with the blast whistle J, or their equivalent, for alternate operation, the former serving to supply air to the chamber D, and the latter to give it vent, by means of valves suitably arranged, and operating substantially as set forth.

Third, the arrangement and combination of the funnel G, with the chamber D, so as to serve as a gauge for the level of the fluid in said chamber, as set forth.

Fourth, in combination with an air chamber and whistles, the use of any compounds that will, by their decomposition or chemical combination, generate gas, and consequent pressure for operating or sounding said whistles, or their equivalents, essentially as specified.

Fifth, the combination with the vibrating weight chamber D of an air pump M and air chamber I, operating substantially as described.

**66,460.**—B. O. CHURCH and HERVEY SMITH, Brattleboro', Vt.—*Octave Coupling for Reed Instruments*.—July 9, 1867.—The depression of a key actuates a compound lever to depress the octave key.

*Claim.*—The arrangement of the levers C C and F F in such manner that the lower levers C C pass over the work upon the lower fulcrum B, and the upper levers C C pass under the upper fulcrum rest E, substantially as and for the purpose shown.

**66,461.**—S. M. CLARK, Washington, D. C.—*Numbering Coupons*.—July 9, 1867.—The figures so occupy the face of the coupon that no room is left for the addition of a figure to change the number.

*Claim.*—The method of numbering coupons, bank notes, and other tokens, substantially as herein set forth and described.

**66,462.**—FRANK COLLIGON, Buffalo, N. Y.—*Steam Engine Lubricator*.—July 9, 1867.—The pump is arranged axially in the reservoir, and draws oil therefrom as the handle is raised, the valve opening for its passage. As the handle is depressed the lower valve opens and admits oil into the passage leading to the cylinder. The pump barrel forms a holding bolt for the cover.

*Claim.*—First, the combination of a lubricating cup and pump, substantially as described.

Second, in combination therewith the stop cock G, as and for the purposes described.

Third, the arrangement of the pump with reference to the cover I, substantially as herein set forth.

**66,463.**—M. COLONEY and S. B. FAIRCHILD, St. Louis, Mo.—*Ribbon Map*.—July 9, 1867.—The map is printed on a long strip, which winds on an axis within the case.

*Claim.*—The map B, arranged with its end strip *b* in combination with the reel and its crank C and the casing A, substantially as set forth.

**66,464.**—CHARLES B. COREY and CHARLES M. TURNER, Cleveland, Ohio.—*Brick Kiln*.—July 9, 1867.—The furnace has a lower chamber with a truck and track to receive the bricks when burned, and an upper shaft whose lower end has surrounding fire-places. The bricks placed in cubical frames are fed into the top of the furnace and lowered down as burnt, by means of the descent of transverse bars, on which the lower end of the column rests. The rods are operated by the same gearing that moves the truck.

*Claim.*—First, the arrangement of the furnace Q with side flues R<sup>1</sup>, in combination with the kiln B, for the purpose and in the manner substantially as described, when placed over the suspended charges as they are successively lowered and removed from the kiln.

Second, the shaft D, roller K, chains J, and bars L, when operated conjointly by the screws G, in combination with the bars F, for the purpose and in the manner as set forth.

Third, supporting the charges or piles of bricks in the kiln by the employment of cross-bars T, passed under said piles, and for lowering them down into the truck V, and supporting the superimposed piles while the lower pile is being drawn from the pit, substantially as described.

Fourth, holding or supporting superimposed piles or charges of bricks in the kiln while being burned, and then discharging the same from said kiln by one continuous automatic operation.

**66,465.**—ANDREW COWAN and ROBERT H. STARR, New Haven, Conn.—*Cupola and other Furnaces*.—July 9, 1867.—The air supply is heated in an annular chamber whose inner casing forms part of the furnace wall. From the chamber it passes through tuyeres to the furnace.

*Claim.*—First, the combination with a cupola or other like furnace of an air or blast receiving or heating chamber, applied to the said furnace in the manner described, so that the heat and other products of combustion generated within the furnace may be brought into direct contact with the metal plates which constitute the inner wall of the said chamber, for the purposes set forth.

Second, the combination with the annular chamber for heating the blast applied to the furnace, as herein described, with twers, opening at different elevations into the interior of the said furnace, as and for the purposes shown and specified.

Third, the method of drawing in or contracting the walls of the furnace immediately above the blast-heating chamber, as and for the purposes herein shown and described.

Fourth, the application to the inner wall of the blast-heating chamber of one or more corrugated or other suitably-formed plates for protecting the said chamber against the effects of excessive heat, as shown and set forth.

**66,466.**—FRANK CRANDELL, Erie, Pa.—*Clothes Dryer*.—July 9, 1867.—The racks are pivoted one above another to the standards, collapse against each other for storage, and expand for use.

*Claim.*—The construction of the adjustable clothes racks, revolving one above the other, with notches H on the side pieces E to clutch the outside posts A, so as to hold the racks in a horizontal position for the clothes to hang on, as described and set forth.

**66,467.**—LYMAN B. CRITTENDEN, Pittsburg, Pa.—*Railroad Car*.—July 9, 1867.—Explained by the claim.

*Claim.*—First, a close or lattice-work car frame mounted on trucks, such frame being made of boiler plate or angle iron and furnished with angle-iron ledges, on which ledges to place brick-bearing shelves or trays.

Second, the construction and use in connection with such car of a tongue *l*, having an arm *l*<sup>1</sup>, the latter provided with one or more pawls, in combination with a corresponding central ratcheted rail, substantially as and for the purposes hereinbefore set forth.

Third, the combination and use, in combination with a car for transporting and drying brick, of a metallic brick-bearing tray, having flanges or projections on either or both of its opposite ledges, so that when such trays are placed side by side in the car interstices or openings will be left between them for the free circulation of air, substantially as and for the purposes hereinbefore described.

**66,468.**—LYMAN B. CRITTENDEN, Pittsburg, Pa.—*Brick Machine*.—July 9, 1867.—The bricks are delivered from the presser, by carriers, to trays moving intermittently to receive them; these trays are afterwards discharged on a receiving bed.

*Claim.*—First, the arrangement of devices in an off-bearing brick machine for supplying trays from the



inclined sliding frame *b* to the belts *d d'* or rollers *e e'*, such devices consisting of the slide *o*, with a projection *o'*, in combination with suitable gearing for communicating motion to and operating the same, and in such a way that a tray will be supplied to the belts *d d'* or rollers *e e'* as soon as each preceding tray shall have passed the foot of the frame *b*, substantially in the manner and for the purpose above set forth.

Second, the rollers *e e'* of an off-bearing brick machine, in any desirable number and either with or without belts *d d'*, and arranged either horizontally or inclined, in combination with a ratchet or other equivalent device for producing intermittent motion, by which a tray resting thereon will be carried forward sufficiently to receive successively a brick at a time, substantially as and for the purposes hereinbefore set forth.

**66,469.**—JAMES DAVIES, Mazomania, Wis.—*Churn*.—July 9, 1867.—The flutter wheel in the upper chamber has radial arms with intervening wire attachments and prepares the cream for the action of the dasher below. It is put in or out of gear by a double-action lever raising or lowering the bearing of its axle, thereby tightening or loosening the endless band by which it is actuated.

*Claim*.—First, the flutter-wheel, constructed as described and arranged in the box *C* on the top of the main churn, with the grated opening at the bottom, as set forth.

Second, the pivoted lever *u*, arranged to form the outer bearing for the shaft of the flutter wheel, so that by releasing said lever the band may be loosened and the wheel stopped independent of the main dasher, as described.

Third, in combination with the ribs *n* secured to the inner wall of the churn, the revolving dasher *B*, having its arms constructed of triangular bars *b*, with the rectangular perforated enlargement at their outer ends, as described.

**66,470.**—HIRAM DEAN, Clyde, Ohio.—*Tuyere*.—July 9, 1867.—The box is recessed at top and has a central oblong opening with stop dampers, attached to pivoted levers, by which the blast may be regulated.

*Claim*.—The rectangular or oblong opening *D*, in combination with the stops *E*, levers *F*, and box *A*, arranged in relation to each other, substantially as and for the purpose set forth.

**66,471.**—P. S. DEVLAN, Jersey City, N. J.—*Journal and Axle Box*.—July 9, 1867.—Explained by the claim.

*Claim*.—The combination with a metallic or other hard journal or axle box of strips of wood inserted in dovetail grooves therein, substantially as shown and described.

**66,472.**—P. S. DEVLAN, Jersey City, N. J.—*Lining for Journal and Axle Boxes*.—July 9, 1867.—The strips of anti-friction material in the box present their ends to the shoulder and collar of the axle alternately to afford longitudinal support therefor.

*Claim*.—An axle or journal box or lining thereto, constructed substantially as described, with recesses open at their one but closing at their opposite end, alternately, for the insertion of the anti-friction or lubricating material, essentially as herein set forth.

**66,473.**—NICHOLAS DIETERICH, Sandwich, Ill.—*Cheek Hook*.—July 9, 1867.—The upper portion of the cheek hook is hinged, so as to be raised to release a tight cheek rein when a horse is thrown or moved.

*Claim*.—A cheek hook, constructed substantially as and for the purposes specified.

**66,474.**—D. H. DOTTERER, Philadelphia, Pa.—*Coupling Journal and Box*.—July 9, 1867.—The shaft is clamped in its socket by a follower and band. The journal runs on hollow rollers, which dip into the lubricant and are run by cogs which mesh with a spur gear on the journal.

*Claim*.—First, a journal *D*, in combination with the anti-friction rollers *C* and *C'*, turning on stationary axes when geared together, substantially as and for the purpose herein set forth.

Second, the hollow anti-friction rollers *C* and *C'*, arranged to turn on stationary spindles fitted to the case *B*, as described.

Third, the trunnions *a a* on the box, adapted to and arranged to vibrate in the portion *A* of the hanger and confined vertically thereto by set screws *f f*, all substantially as set forth.

Fourth, the coupling journal *D*, provided at one or both ends with tabular enlargement *F*, constructed for the reception of a shaft, substantially as set forth.

Fifth, the hollow enlargement *F*, its lateral opening for the introduction of a shaft, and the follower *h*, adapted to the said opening and confined therein by the ring *G*, or its equivalent.

Sixth, the tapering exterior of the enlargement *F* and the detachable follower *h*, forming a continuation of the said tapering enlargement, in combination with the tapering ring *G*.

Seventh, the combination of the follower *h* and its feather or projection *i* with the grooved end of the shaft.

**66,475.**—BENJAMIN ADAMS DRAYTON, Utica, N. Y.—*Paint Brush*.—July 9, 1867.—The bristles are clamped by the thimbles around the core of the brush, and the enveloping thimbles screw into the cap around the boss of the handle.

*Claim*.—First, the thimble *F*, constructed in the form and manner herein described and for the uses and purposes mentioned.

Second, the thimble *F* and cap *E* and the shoulders *B B* of the handle, in combination, for the uses and purposes mentioned.

Third, the thimbles *G* and *F* and cap *E*, in combination, for the uses and purposes mentioned.

**66,476.**—SALLIE ANN EARLY, Philadelphia, Pa., assignor to SAMUEL R. NAGEL, same place.—*Hair Curler*.—July 9, 1867.—The curved bar has a retaining wire pivoted to one end and engaging by a hook into the slot in the other end.

*Claim*.—The within-described hair curler, composed of the curved bar *A*, of wood or other light material, and the retaining wire *B*, hinged to one end of the said bar and having a bent end fitted to a slot in the opposite end of the bar, all substantially as set forth.

**66,477.**—HENRY H. EBAUGH, Hereford, Md.—*Plow*.—July 9, 1867.—The supporting wheels are mounted in swing frames that are pivoted to the main frame, allowing the latter an independent action. The wheels have their bearings in concentric bars that extend down below the main frame and constitute guides that direct the adjustable frame, which is actuated by a crank and pulleys connected by chains.

*Claim*.—First, mounting the supporting wheels *B C* in swing frames *D E*, pivoted to the main frame *A*, arranged and operating substantially as and for the purpose herein specified.

Second, the winding pulleys *N O*, of different sizes, in combination with the chains, bands, or ropes *n o*, and swing frames *D E*, substantially as and for the purpose herein set forth.

Third, in combination with the foregoing, the pulleys *P R*, crank *S*, and its ratchet and pawl, substantially as and for the purpose herein specified.

Fourth, the gauge wheel *I*, when arranged and operating with the swing frames *D E*, as and for the purposes set forth.

Fifth, the arrangement of the pole or tongue *G* in the roller *H* and guide socket *g*, as herein specified.

**66,478.**—JAMES P. EDMONDS, Roehelle, Ill.—*Churn*.—July 9, 1867.—The dasher shaft is supported by the frame attached to the churn and is reciprocated vertically by the engagement of its projecting arm with a perforated wheel, whose crank shaft has its bearings in the frame.

*Claim*.—First, the peculiarly-formed portable or removable supporting frame *C M H D* with the shaft *F* and wheel *E*, arranged as and for the purposes set forth.

Second, providing the bar *D* with a slot *d*, when used in combination with the aforesaid portable frame and wheel and the dasher handle, as and for the purposes specified.

Third, providing the wheel *E* with a series of unequal openings *u v x y z*, in combination with the arm *N*, upon the handle *B*, as and for the purpose described.



**66,479.**—MARTIN P. FORD, Columbus, Ohio.—*Car-seat Lock*.—July 9, 1867.—The rotating cam operates the bolt, which is retained by the spring lever and is countersunk within the hook to prevent interference therewith.

*Claim.*—Recessing the cam A and spring lever o into the back of the plate, so as to present a flush surface, as herein described.

**66,480.**—HENRY FOWLER, Bronson, Mich.—*Apparatus for Evaporating Sorghum Juice and other Liquids*.—July 9, 1867.—The steam pipes converge into an enlarged central pipe, the condensed water being forced out by the pressure of steam. The pipes are arranged to produce the greatest heat in the centre of the pan, throwing the scum to the sides convenient for skimming.

*Claim.*—The arrangement of the steam chamber D, pipes *a a a* and E, connected with the water chamber F, and discharging pipe *f*, in combination with the eduction pipe G, safety valve *h*, lever H, and weight *k*, operating substantially as and for the purposes set forth.

Also, the arrangement of the horizontal steam pipes in such manner that the greatest heat will be in the centre of the boiling pan, thus throwing the impurities and scum to the side and corners of the pan or evaporator, as and for the purposes herein described.

**66,481.**—FRANCIS S. FROST, West Cambridge, Mass.—*Bed Bottom*.—July 9, 1867.—The curved springs are attached to the cross bars of the bed bottom and to the under side of the slats and are supported by straps, attached beneath them to the cross bars and to the ends of the slats. Additional cross bars, with elastic attachments and spring pads prevent the slats settling too low in the middle.

*Claim.*—First, the combination of the springs *e*, connected by straps to the slats *d*, the bars *b d*, and the straps *g*, as and for the purpose specified.

Second, the extended springs *e'*, in combination with the bars *b e*, and the bar *b*, provided with the elastic pads *i*, as and for the purpose specified.

**66,482.**—JOSEPH GALETTE, New York, N. Y.—*Anti-rheumatic Liniment*.—July 9, 1867.—Composed of croton oil, creosote, hyoseyamus, cajeput, ammonia, arnica, laurus cerasi, cantharides, alcohol, chloroform, belladonna, and opium.

*Claim.*—First, the use of oleum crotonis and oleum creosoti in combination with other substances, as a remedy against rheumatism.

Second, the compounding and mixing of the new anti-rheumatic liniment, substantially as herein described and for the purpose specified.

**66,483.**—SERENO GAYLORD, Chicopee, Mass.—*Trunk Lock*.—July 9, 1867.—The spring catches on each side of the key pin rest against a stop guide attached to the plate. The double action key opens the catches simultaneously, the springs re-engaging them on the withdrawal of the key.

*Claim.*—First, in a catch lock placing two or more catches A A' B B', on each side of the key pin, and working on pins *l l*, at their lower ends, the distances between the key pin and key bearings being different on the upper and lower catches, so that by reversing the same a different lock may be formed, the parts arranged substantially as herein shown.

Second, in combination with the above the key guards C and D, arranged substantially as and for the purpose shown.

**66,484.**—JOHN M. GEER, Holden, Mass., assignor to DODGE and WALLINGTON, Worcester, Mass.—*Saw Set*.—July 9, 1867.—The saw blade is introduced between the jaws, and the teeth are bent over the die block by the moving jaw.

*Claim.*—The head B, constructed in the manner described for supporting the head C, with the extending jaw E, and laterally-projecting arm F, substantially in the manner set forth.

**66,485.**—H. A. GRAEFF, Birdsboro', Pa.—*Corn Sheller*.—July 9, 1867.—The shellers accommodate themselves to the size of the ear by the pressure of the spiral springs; the knife attached cuts the green corn from the cob. The machine is operated by a hand crank connected by its forked shank.

*Claim.*—The arrangement and combination, as above set forth, with which the shellers A, in Figs. 1 2 3 and 4, are attached, and worked by the fork E I, in Fig. 1, together with the knife D, in Fig. 3, for cutting green corn from the cob.

**66,486.**—ISAAC GREGG, Philadelphia, Pa.—*Drying Bricks*.—July 9, 1867.—The oven is surrounded by a steam casing. An opening at each end of the oven admits the brick-carrying apron; a safety valve at top and waste water pipe and cock below appertain to the steam and condensed water arrangements. The endless chain is actuated by grooved pulleys and kept in position by rollers; it conveys the bricks through the oven at a speed regulated to sufficiently dry them for the kiln by the time they emerge.

*Claim.*—An oven A, having openings at both ends, and containing or surrounded by one or more steam casings or steam pipes, in combination with endless bands or chains *c c*, which extend through the oven, and to which either an uniform or an intermittent motion is imparted, all substantially as and for the purpose described.

**66,487.**—ISAAC GREGG, Philadelphia, Pa.—*Apparatus for Heating Clay*.—July 9, 1867.—The clay chamber is heated by an annular steam chamber. The clay is admitted into the cylinder from a hopper, and is agitated by the revolving blades that impel it toward the discharge end.

*Claim.*—First, a casing or vessel A, surrounded by or containing a steam casing or coil, in combination with a shaft C, having blades or arms D D, the whole being constructed and operating substantially as described.

Second, the combination of the above with a steam pipe, communicating with the casing for the purpose specified.

Third, a casing A, consisting of two detachable sections *b b'*, containing chamber X, communicating with a steam boiler and adapted to each other, and enclosing a shaft having arms or blades secured to the same, all substantially as and for the purpose set forth.

Fourth, the combination of the above and the stuffing boxes *f* and followers *g*, constructed as described.

**66,488.**—ISAAC GREGG, Philadelphia, Pa.—*Apparatus for Treating Clay*.—July 9, 1867.—The tapering rollers are geared together, and the increased speed, at their large ends draws the stones from the clay, discharging them at the end.

*Claim.*—The two tapering rollers C and C', geared together and arranged to operate on the clay and stones contained therein as set forth.

**66,489.**—CHARLES GUDEHUS and F. STAAKE, Philadelphia, Pa.—*Foot Scraper and Umbrella Stand*.—July 9, 1867.—The case has supports for umbrellas, stationary shoe brushes and scraper, with a drawer to collect the dirt.

*Claim.*—As a new article of manufacture the device consisting of case *a*, drawer *b*, scraper *d*, umbrella stand *f g*, and brushes *h i k m*, combined and arranged substantially as shown and described.

**66,490.**—D. F. HAASZ, Philadelphia, Pa.—*Spring for Beds*.—July 9, 1867.—The sliding rods depend from the slats, and are supported by spiral springs connected to the rails.

*Claim.*—The springs *d d*, links *f f*, and bar *h*, in combination with the strap A, sliding rod *a* and disk *b*, or its equivalent, the whole being constructed, arranged, and operating substantially as and for the purpose described.

**66,491.**—MARSHALL HASKINS and D. B. HART, Mentor, Ohio.—*Cultivator*.—July 9, 1867.—The draw bar of the plow frame is hinged to a vertical plate having various bolt holes for adjustment. The brace bars have adjusting screw swivels. The shares have transverse slots and extensible wings.

*Claim.*—First, the use and employment, specially, of cultivator shovels or plows M, provided with perforations or open interstices made transversely across the blade, or in any direction that will serve the purpose contemplated, as herein set forth.

Second, the use and employment of the blinds N N, provided with slots and with jogs O O, in combination



with the above described perforated shovels or plows M, and operating substantially as and for the purpose specified.

Third, the use and employment of said described perforated shovels M, with and without the said described blinds N N, in combination with the slotted right-angled beam H, cross-tie I, rods G G, grooved clevis E, beam F, plow standards P<sup>1</sup>, swivel braces Q, brace Q<sup>1</sup>, slotted bands P<sup>4</sup> and P<sup>5</sup>, and bolts P<sup>2</sup>, all arranged, combined, and operating as and for the purposes described.

Fourth, the graduated standards J, plow handles K, rod R, and joints in beam F, combined and operating as and for the purpose described.

**66,492.**—W. F. HELLEN, Washington, D. C.—*Egg Tongs.*—July 9, 1867.—Explained by the claim and illustration.

*Claim.*—The construction and form of the tongs A, to correspond with the shape of an egg, when constructed of any material, with or without teeth B, and with any kind of a handle to operate them, as herein described for the purposes set forth.

**66,493.**—H. R. HOAGLAND, Montezuma, N. Y.—*Thill Attachment.*—July 9, 1867.—The cross-bar of the thill attachment is slid laterally into position when the thills are in a vertical position, and the neck of the said attachment lowered down into its slot.

*Claim.*—The combination of the thill attachment D with the clip head B, when said clip head is provided with a uniform transverse bore open at both ends, and also with a transverse slot whose sides shall form an acute angle with the arm A, substantially for the purpose set forth.

**66,494.**—HENRY HOLCOMB, Painesville, Ohio.—*Automatic Feed for Steam Pans.*—July 9, 1867.—The supply vessel is elevated above the pan, and has at bottom a supply pipe with a stop cock. Another pipe leads from the desired surface level in the pan, and on the fall of the liquor below its mouth supplies air to the supply vessel, and allows the liquid to flow from the same.

*Claim.*—First, the within described automatic feed apparatus, consisting of the reservoir A, filler B, supply pipes C and H, stop cocks E and I, and air pipe F, arranged, combined, and operating as herein set forth and for the purpose specified.

Second, the combination of the said described apparatus with vapor pans, evaporators, tanks, and other articles used in the processes of the evaporation of fluids.

**66,495.**—HANFORD INGRAHAM, Naples, N. Y.—*Cultivator.*—July 9, 1867.—The horse is harnessed to the thills, and hitched to a hook attached to the central plow. The side plows are adjustable laterally.

*Claim.*—First, the arrangement of the standards and cross-bars with the molds or shares, as constructed in combination with the thills, substantially in the manner and for the purposes as herein described.

Second, the adjustment of the shares to the required angle by means of adjustable plates with flanges, substantially in the manner and for the purposes herein described.

Third, the adjustable clasps in combination with cross-bar E, the thills, rods, standards, and shares, substantially in the manner and for the purposes as herein described.

**66,496.**—JAMES IVES, Mount Carmel, Conn.—*Top Prop Nut for Carriages.*—July 9, 1867.—Explained by the claim. The socket is undercut at its inner extremity.

*Claim.*—As a new and improved article of manufacture, a top prop nut, constructed with a solid head on screw-tapped socket.

**66,497.**—THOMAS JAMES, New York, N. Y.—*Lock for Valises, &c.*—July 7, 1867.—The bolt bar nearly equals the jaws in length. It has an end spring and catches, which engage staples in the other jaw. When locked, a spring detent attached to the dropping blind escutcheon enters a cavity of the bolt.

*Claim.*—The bolt C, provided with a notch a and two or more hooked catches with corresponding staples in the opposite jaw, in combination with the sliding catch E and drop F, the whole constructed

and arranged substantially as and for the purposes specified.

**66,498.**—CHARLES T. JEROME, Minneapolis, Minn.—*Fire Annihilator.*—July 9, 1867.—The inner open-topped cylinder is filled with a composition of saltpeter, 100; charcoal, 18; sulphur, 16; whiting, 33½ parts. The inclined chambers within the vessel containing the glass vessel are charged with gunpowder. The vial contains sulphuric acid. The outer annular and bottom chamber contain water. Powder fuses communicate from the powder chambers to guarded cavities in the lid, and the fuzes are tipped with substances ignitable at 112° Fahrenheit. The ignition of the fuzes throws the sulphuric acid into the inner cylinder, and the heat evolved expands the air and raises the water. The gas is carried out through the pipe in the top. The vial may be fractured by a rod thrust through the central plug hole in the lid.

*Claim.*—First, the application of a quick match, which will take fire at a low temperature, to an apparatus for extinguishing fire by the injection upon the same of a gaseous non-supporter of combustion, substantially as described.

Second, providing the gas-generating vessel D with a water chamber, substantially as described.

**66,499.**—GEORGE JOHNSTON and EDWIN G. SMITH, Auburn, Cal.—*Amalgamator and Concentrator.*—July 9, 1867.—The pulverized ore or tailings passes from the hopper to the copper plate, which is coated with mercury; it then passes to an endless traveling and shaking canvas belt, which ascends against the stream, carrying the heavier particles to be discharged into a box while the lighter masses are washed off.

*Claim.*—First, the revolving belt or apron F, with its raised edges O, having a shaking or rocking motion from side to side, substantially as and for the purpose described.

Second, the amalgamating plate E, in combination with the revolving shaking belt or apron, substantially as and for the purpose described.

Third, the box M, with its jets in the direction of the motion of the belt or apron, together with the roller N, substantially as and for the purposes described.

**66,500.**—GEORGE T. JONES, Cincinnati, Ohio.—*Manufacturing Bank Notes, &c.*—July 9, 1867.—Surface and plate printing are each employed upon unsized paper and the ink locked in by subsequent sizing. Inks are used which defeat attempts at counterfeiting by the photographic process.

*Claim.*—The combined process herein described for producing bank notes or other securities by plate and surface printing at separate operations and with various colors on unsized paper, and subsequently perfecting the paper and locking up the prints therein by the application of size, which is subsequently rendered insoluble by heat.

**66,501.**—HENRY H. KELTY, Northfield, Ohio.—*Farm Gate.*—July 9, 1867.—The gate has inclined bars, the upper one of which runs upon a roller of the pivoted frame, upon which it is balanced and swung around. The incline raises the gate so as to swing above obstructions.

*Claim.*—The gate A, constructed with inclined bars B C, in combination with the slotted stay G, as and for the purpose herein substantially as described.

**66,502.**—WILLOUGHBY F. KISTLER, Chicago, Ill.—*Permutation Lock.*—July 9, 1867.—The tumblers have no connection with each other, and have fixed partition disks between them. Each tumbler has a sleeve and a disk with a projection on the same by which the tumbler is revolved by the rotation of the spindle. The tumblers are fixed to their sleeves by a spaced disk, by which they are set to any required number. When the disks are turned to the required position for unlocking, the dog enters the recesses, and the connections are thrown in position by partial rotation of the spindle to allow the retraction of the bolt by the movement of the proper handle.

*Claim.*—First, the arrangement of a movable slide F, of the arm E, of the knob spindle, for operating the tumbler, substantially as and for the purpose described.



Second, the combination with said movable slide F, the arrangement of the cam *g*, so as to operate said slide, substantially as specified.

Third, the arrangement of the auxillary eams *e h'*, in combination with said cam *g*, to bring the pin *f* at the proper position when it reaches the cam *g*, causing it to operate as set forth.

Fourth, the combination of the tumblers and their drivers with said slide F, and spindle *a*, arranged and operating in the manner described.

Fifth, the combination of the dog M, block lever V V', eliek V, and arm *b''*, arranged so as to operate in the manner and for the purposes set forth.

Sixth, in combination with the last foregoing, the arms W, and lip *w*, and the stop R, arranged substantially in the manner and operating substantially as described.

Seventh, in combination with said arm W, the arm Z, and its connections, with the dog S, arranged and operating in the manner and for the purposes specified.

Eighth, in combination with the arm *b''*, the arm Z, provided with a shoulder Z' and the connections Y X, or the equivalent, for the purpose of raising up the dog S from the bolt D, substantially as specified and set forth.

Ninth, in combination with the arm W, the arrangement arm *a'* upon the spindle *a*, so as to operate in the manner and for the purposes described.

**66,503.**—GEORGE H. KNIGHT, Cincinnati, Ohio, assignor to ARDREW O'NEILL, Portsmouth, Ohio.—*Frying Pan*.—July 9, 1867.—The pendent rim is eccentric to give space for the vertical passage of the fume duct to the fire chamber.

*Claim.*—First, the combination of the eccentric rim F with the vertical or nearly vertical fume duct B, descending within the said rim, substantially as and for the purposes set forth.

Second, the combination of the ducts D and B, with the skillet A and cover C, substantially as and for the purposes set forth.

**66,504.**—HEZEKIAH KNOWLES, Brooklyn, N. Y.—*Shade Holder for Lamps and Gas Burners*.—July 9, 1867.—The sections each slide in a slot in the curved end of the other section. The inner sections are fixed to the burner ring, and the outer ones extensible to suit various size burners.

*Claim.*—The extensible adjustable shade holder, consisting of movable and fixed arms combined with each other and with the central support, substantially as described.

**66,505.**—SANFORD LITTLEFIELD, Grafton, N. Y., assignor to CHARLES S. SMITH and PELATIAH J. MARSH, Troy, N. Y.—*Feed Bar for Sewing Machines*.—July 9, 1867.—Vulcanized rubber cushions are dovetailed into the parts of the feed bars that are most exposed to wear from the cam wheel, &c.

*Claim.*—First, the employment of an adjustable and removable part or piece E of vulcanized rubber, or other suitable material, in combination with the feed bar of a sewing machine, and at or near the feed point or part which carries the feeding surface, so as to receive the wear from the action of that part of the machine which moves it forward, in the manner and for the purposes substantially as herein described.

Second, the employment and combination with the feed bar B of a sewing machine of an adjustable and movable vulcanized rubber piece D, or its equivalent, in the manner and for the purposes substantially as herein described and set forth.

**66,506.**—IRA A. LIVINGSTON, Hornellsville, N. Y.—*Well Tube and Point*.—July 9, 1867.—The solid metallic point is secured to the lower section of the tube by a bayonet joint, the upper joints being coupled in the usual way.

*Claim.*—The solid metal point A, shank X, socket *y*, in combination with the rectangular slot *b e*, and projection *f*, on the shank, to secure the main tube C, in connection with the outer tube or shield B, and coupling D, operating in the manner as and for the purposes herein set forth.

**66,507.**—WM. O. LOEFFLER, New York, N. Y.—*Automatic Fan*.—July 9, 1867.—The edges of the curtain are stiffened by slats, and an endless cord

actuating the roller regulates the area. The oscillating motion of the suspended frame is given by clockwork, connected therewith by pivoted rods.

*Claim.*—First, the fan F, in combination with the roller *d* and oscillating frame E, constructed and operating substantially as and for the purpose set forth.

Second, the slats F and slotted cross-bar *g*, in combination with the fan F and oscillating frame E, constructed and operating substantially as and for the purpose described.

Third, the flexible connection *i*, in combination with the oscillating frame E and rocking lever *j*, constructed and operating substantially as and for the purpose set forth.

**66,508.**—THOMAS L. LUDDERS, Olney, Ill.—*Molding Box*.—July 9, 1867.—The guides are attached to the lower portion of the box by bolts adjusted in elongated slots, and are adjustable to the upper portion by the lugs attached thereto. The two lovers consist each of two arms connected by cross-bars and pivoted into recesses in the middle of the box.

*Claim.*—First, in combination with a flask or box, constructed substantially as described, the lifting levers, as and for the purpose set forth.

Second, the adjustable, tapering, and bevel-edged guide B on one portion of a molding box, in combination with the lugs *h h*, or their equivalents, on the other portion of the box.

**66,509.**—H. P. MARQUAM, Harrisburg, Pa.—*Compound for Cleaning Glass and Polishing Metallic Wares*.—July 9, 1867.—Composed of whiting, 10 pounds; venetian red,  $\frac{1}{2}$  pound; sal-soda, 1 ounce; cyanide of potassa,  $\frac{1}{2}$  ounce.

*Claim.*—The above compound, prepared as and for the purpose set forth.

**66,510.**—NATHAN F. MATHEWSON, Barrington, R. I., assignor to himself and NATHAN GRANT, Providence, R. I.—*Window Blind Fastening*.—July 9, 1867; antedated June 27, 1867.—The middle of the face plate is raised to accommodate the spiral springs that actuate the latches; these operate separately to fasten the blinds open or shut independently of each other. The fastening latch is inaccessible from the outside.

*Claim.*—The improved fastening for blinds described, consisting of two independent latches B and F, in combination and arranged to engage with appropriate catches, substantially as set forth.

**66,511.**—GEORGE MCKENZIE, Glasgow, Scotland.—*Manufacture of Illuminating Gas*.—July 9, 1867.—A mixture of one ton bituminous coal, and 30 gallons mineral oil; is distilled in a retort in the usual manner.

*Claim.*—The combining of pulverized coal and mineral oil to form a compound to be used for obtaining illuminating gas, substantially as hereinbefore described.

**66,512.**—JOHN MELLING, Rochester, N. Y.—*Preparing Wood for the Manufacture of Labels, Tags, &c.*—July 9, 1867.—The cedar is cut into veneers, boiled in a solution of rye flour,  $2\frac{1}{2}$  pounds; water, 1 gallon; white glue,  $\frac{1}{2}$  pound; alum,  $\frac{1}{2}$  ounce; and afterward dried.

*Claim.*—First, the treatment of cedar or other suitable wood with the solution, substantially in the manner and for the purposes herein shown and described.

Second, the proportions of the ingredients forming the solution for the treatment of the above-mentioned substance, substantially as set forth.

**66,513.**—BENJAMIN W. MINOR and ALLEN COLBURN, Boston, Mass.—*Tailor's Crayon Sharpener*.—July 9, 1867.—The transverse cutters are adjusted in conjunction with V-shaped notches in the tube, the cup beneath catching the waste. The heavy base holds the tool in position.

*Claim.*—The cutter, as composed of the cross-bar and tube, arranged and slotted as described.

Also, the combination and arrangement of the cutter and the waste-intercepting cup.

Also, the combination and arrangement of the cutter, the waste-intercepting cup, and the base or



weight, the whole being as and for the purpose described.

**66,514.**—JOHN N. MURRAY, Chicago, Ill.—*Printer's Chase*.—July 9, 1867.—The adjustable sliding frame is supported in grooves in the stationary frame, is regulated to the size of the form, and is secured by set screws.

*Claim.*—The combination and arrangement of the frame A, the bars B C, and slides *b c*, and clasp *d*, and set screws S, operating substantially as and for the purposes described.

**66,515.**—E. NICHOLSON, Rockport, Ohio.—*Gate Latch*.—July 9, 1867.—The motions of the latch are limited by the contact of shoulders with the slotted plate in which it moves and the curved edge determines the path of its movement.

*Claim.*—The construction of the latch D, provided with the shoulders *b b'*, notch *e*, and curved shoulders F, as arranged in combination with the spring E, slotted plates C C', and gate, for the purpose and in the manner as set forth.

**66,516.**—LUTHER OLDS, Battle Creek, Mich.—*Stove Pipe Shelf*.—July 9, 1867.—A band clamped around the pipe is the means of sustaining bent bars which support shelves.

*Claim.*—A portable shelf which is adapted for being secured to and sustained by a stove pipe, substantially in the manner and for the purpose described.

**66,517.**—SAMUEL PAGE, McAllistersville, Pa.—*Fruit Picker*.—July 9, 1867.—The first stem slips into the notch in the forked plate and is severed by the motion of the pivoted jaw. The hook on the plate serves to pull the fruit. The bag is sewn to the perforated edge of the plate.

*Claim.*—The combination of the forked plate A, with notches A', recess C, handle B, shearing knife D, and cord K, said several parts being respectively constructed and arranged for use substantially as described.

Second, the combination of the fruit picker and adjustable rest, as shown in figure 3, substantially as described.

**66,518.**—EDWARD L. PERRY, New York, N. Y., and WILLIAM A. TORREY, Montclair, N. J.—*Manufacture of Rubber Hose*.—July 9, 1867.—Explained by the claims and illustration.

*Claim.*—First, in the manufacture of india-rubber or gutta-percha hose, covering the joint or joints of the mandrel in which the hose is made, with a strip or strips of paper, substantially as and for the purpose described.

Second, in interposing between the inner tube or lining to india-rubber or gutta-percha, and the outer covering of whatever material made, a layer or layers of any suitable air and water-proof stock or material, substantially as and for the purpose specified.

Third, in the manufacture of india-rubber or gutta-percha hose, so winding the cotton, duck, or other fibrous or textile fabric used, that the warp threads of the fabric will intersect or cross each other, substantially as and for the purpose specified.

**66,519.**—FRANK J. PLUMMER, Worcester, Mass., assignor to R. BALL & Co.—*Planing Machine*.—July 9, 1867.—The spindle frame swings on its axis of attachment to the bed of the machine, to permit its adjustment to plane boards of varying widths. It is thrown out of or into gear by a system of arms connected therewith.

*Claim.*—First, supporting the matcher spindles and heads in a swinging frame constructed and operated substantially in the manner and for the purposes stated.

Second, in a machine such as described, the combination of the swinging matcher-head bed or frame, with the arms H, cam arms L, and shaft M, substantially as herein shown and specified.

Third, the combination of the arms H, and connecting bolts *o*, with the slotted cam arms L, in the manner and for the purpose described.

Fourth, the combination with the arms H H, of the horns J J, and the shaft M, substantially as and for the purposes set forth.

Fifth, the combination with the rear ends of arms

H H, of the projections I I, and oblong holes or slots *g g*, for the purpose stated.

**66,520.**—W. F. REDDING, Saratoga Springs, N. Y.—*Clothes Dryer*.—July 9, 1867.—The sleeve to which the arms are attached is vertically adjustable on a post and secured by a cord and windlass.

*Claim.*—First, the combination of the sliding tube D, mounted on the square post, and collar E, provided with recesses for supporting the arms, substantially as shown and described.

Second, the metal belt G, passing over the pulley *d*, and fitting in the groove *l*, when used in connection with the tube D and windlass F, for raising and lowering the reel as herein set forth.

Third, the blocks *b c*, or their equivalents, attached to the post B, for holding the arms when putting them up or taking them down, as shown and described.

Fourth, providing the base A with the staples *a*, for securing the apparatus in place, substantially as described.

**66,521.**—EZRA RIPLEY, Troy, N. Y.—*Teakettle*.—July 9, 1867.—Explained by the claim.

*Claim.*—A teakettle having an edgewise swinging cover pivoted to or upon an inwardly extended part *b*, of a rim around the opening in the top of the teakettle, when the whole is so constructed that if the cover be partially or nearly closed and the teakettle then inclined forward, as in pouring water out of the spout, the weight or gravity of the cover will then make or tend to make the cover swing shut and stay shut, substantially as herein set forth.

**66,522.**—GEORGE SCHMIDT, Dobbs's Ferry, N. Y.—*Piano Forte Stool*.—July 9, 1867.—The seat top has a pendent spindle longitudinally grooved to receive a tongue to prevent rotation. It is partially supported on a spiral spring and fixed to any adjustment by a thumb-screw which engages the spindle.

*Claim.*—First, the combination of the seat A, spindle B, with a groove C in it, and spiral springs J, with the center plate E, having a tongue D thereon, and frame F, as hereinbefore set forth.

**66,523.**—EBENEZER SEAVER, Boston, Mass.—*Clothes Pin*.—July 9, 1867.—The pivoted jaws are held by a pawl piece which engages notches in the rear of the shorter jaw to clamp the clothes.

*Claim.*—First, a clothes pin composed of a base piece or clamp A, a hinged clasp B, and a locking device C, substantially as described, or its equivalent, for securing the clasp in position.

Second, the spring *e*, or its equivalent, in combination with the clamp A, and clasp B, as and for the purpose specified.

Third, the toothed or corrugated edges *a a'*, in combination with the grooves *b b'*, in the clamp A, and clasp B, as and for the purpose set forth.

**66,524.**—REUBEN SHALER, Madison, Conn.—*Weighing Scale*.—July 9, 1867.—The scale is supported on springs, and when depressed engages a rack which actuates the index finger by a pinion on its spindle.

*Claim.*—First, the combination with flat springs C, of a scale of the pieces *a*, substantially as and for the purpose set forth.

Second, making the springs C, of a weighing scale constructed substantially as described, concave on their edges, so that they shall gradually diminish in width from the ends to the center, substantially as and for the purpose specified.

Third, the combination with the rack I, and pointer G, with the set screw *e*, operating substantially as described for the purpose set forth.

**66,525.**—ABRAHAM H. SHOCK, Piqua township, Pa.—*Manure Dray*.—July 9, 1867.—To discharge the load gathered on the tines the spring bolt is withdrawn, which allows the shaft to rotate backwardly and clear the tines of the manure. The curved bar forms a runner when returning empty.

*Claim.*—The arrangement of the combined central runner R with the revolving hook shaft S and its bearings *s*, in combination with the spring bolt E, with its notched head C, peg or shoulder P, operated by the lever L, in the manner and for the purpose specified.



**66,526.**—G. SIMPSON and W. H. EDMUNDS, Waterbury, Vt.—*Lamp Extinguisher*.—July 9, 1867.—The cap is hinged to the wick tube, and is thrown over it to extinguish the light.

*Claim.*—The combination of the socket *a a* with the hinged cap *B*, connecting rod *b*, crank *c*, and wick tube *A*, constructed and operating substantially in the manner herein described for the purposes herein set forth.

**66,527.**—ALFRED SIMS, New York, N. Y.—*Starting Engines and other Machinery off their Centres*.—July 9, 1867.—A screw, hydraulic, or other press, is swiveled to the frame so as to be swung into position for use should the crank stop on its center.

*Claim.*—The presser *A A'*, attached to the frame of a steam engine or to any part in proximity to said engine by pivots, swivels, hinges, or by movable slides, or other equivalent devices, to operate in combination with the crank *B*, substantially as and for the purposes described.

**66,528.**—THOMAS A. SLACK, Peoria, Ill.—*Stamp Affixer and Canceller*.—July 9, 1867.—A reel contains and supplies the stamps, which are placed by rollers, wetted by a sponge and excised by a knife. By the same blow which affixes the stamp the same is canceled by a die operating through an ink ribbon. The former portion of the apparatus may be removed, leaving the canceling portion.

*Claim.*—First, the combination of an adhesive stamp feeder and affixer with a stamp canceller, substantially in the manner and for the purposes as herein set forth.

Second, the movable frame or arms *d d*, rollers *e h* and *i*, and spring *f*, as arranged and operated in combination with the ink ribbon stamp, substantially for the purposes and in the manner as herein set forth.

Third, the arrangement of the arm *q*, in combination with the lever shaft *p*, for attaching and detaching the stamp feeder to and from the stamp canceller, substantially in the manner and for the purposes as herein set forth.

Fourth, the stamp-feeding machine, as described, in combination with the stamp canceller, substantially in the manner and for the purposes as herein described.

**66,529.**—H. JULIUS SMITH, Boston, Mass.—*Amalgamating the Precious Metals*.—July 9, 1867.—The cylinder contains a series of revolving perforated amalgamating plates, and communicates with a trough, at the bottom of which is a revolving propeller secured to a shaft. The trough is filled with a solution of common salt, through which a current of electricity is passed by means of a battery, the electrodes of which are placed in said trough. The cylinder and trough are connected together by pipes.

*Claim.*—First, an amalgamating apparatus in which mercury is made to pass from an amalgamating chamber to a regenerating tank, in which its amalgamative power is increased, as described.

Second, renewing or increasing the amalgamative energy of mercury by passing it through or bringing it in contact with a solution of one of the compounds, or salts, of an electro positive metal, subjected to an electric current, as specified.

Third, causing the mercury in an amalgamating apparatus, after regeneration, to flow in a direction opposite to that taken by the comminuted ores on which it is intended to operate, so that the one least charged with metal shall encounter mercury of the greatest amalgamative energy, as set forth.

Fourth, directly and continuously supplying to mercury used in the extraction of metals from their ores, the waste of the amalgamative energy which occurs in the process of amalgamation, by bringing it into contact with a solution of one of the salts, or compounds, of an electro-positive metal acted upon by an electrical current, as described.

Fifth, causing the ore to be operated upon to pass through revolving perforated plates in the amalgamating chamber, in the manner set forth.

Sixth, the arrangement for conjoint operation in an amalgamating apparatus, of an amalgamating chamber, regenerating tank and electric battery, substantially in the manner and for the purpose described.

**66,530.**—FREDERICK SNYDER, Hinkleton, Pa.—*Horse Hay Fork*.—July 9, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the braec handles *I I'* with the tine handles *A B*, above and below the tine heads *J K*, to which the tines *L* are affixed together with the quadrant loop *H*, embracing the tine handle *B*, arranged and operating in the manner and for the purpose specified.

Second, the construction of the slotted cap *D* with its hook and prolonged arm *d*, when held upon the end of the tine handle *B* by a pivot *P*, in combination with the link *E* and tripper *C* with its shoulder *N* and loop *M*, the whole arranged and operating in the manner and for the purpose specified.

**66,531.**—EBENEZER SPERRY, Miami Village, Kansas.—*Toy Gun*.—July 9, 1867.—The propeller bar is attached by rubber side straps to a frame at the muzzle. The propeller is tripped by release of a bell-cranks catch engaged by the trigger.

*Claim.*—The combination of the detent *E* with the guard spring *F* and cheek piece *f<sup>2</sup>* and the trigger *E'*, substantially as set forth.

**66,532.**—JOHN SPILMAN, Tonawanda, N. Y.—*Floating Wheel for Vessels*.—July 9, 1867.—The wheel has spiral blades and is rotated by the resistance of the water as it is towed abaft the vessel or by the force of the current when the vessel is stationary. It is connected by a tumbling rod with gearing on board, which may work a pump, &c.

*Claim.*—The partially submerged floating wheel *A*, consisting of the buoyant cylinder *C*, helical wing or wings *E E*, and case *f*, for producing rotary motion by the resistance of the water, when moved in contact therewith, substantially as and for the purposes set forth.

**66,533.**—WM. A. STARRATT, Boston, Mass.—*Steelyard*.—July 9, 1867.—The arm of the steelyard has a stop to catch the perforated sliding weight, which has an elastic cushion or buffer to moderate the effect of its blow against the stop.

*Claim.*—The combination of the elastic cushion *e* with the head *b* of the weight arm and with the weight *D*, arranged to slide on such arm, in manner and under circumstances substantially as specified.

**66,534.**—THEOPHILUS STOVER, Cambridgeport, Mass.—*Mosquito Screen for Windows*.—July 9, 1867.—At the lower end of the screen are sliding sections to admit the hand to open or close the shutter. The middle portion of the screen, where the valves lap, has a slit, which is normally closed by a spring, but may be opened to admit the passage of the hand.

*Claim.*—First, the application of sliding screens *C* to screen frame *B*, substantially in the manner and for the purposes described.

Second, the netting strips *D D* with a passage between their lapped edges, applied to a frame and controlled by springs, or their equivalent, substantially as described.

**66,535.**—E. H. TAYLOR, Batavia, N. Y.—*Sad Iron*.—July 9, 1867.—Air circulates around the heater, which rests against ribs inside the box. The stem of the sliding door slips in a sleeve on the rear of the handle and is held in elevated position by a pin, which engages a slot in the sleeve.

*Claim.*—The combination and arrangement of the rear end and side ribs *b b'* with the bottom ribs *b<sup>2</sup>*, for allowing a free air space all around the interior and strengthening the sides and ends of the box against the blows of the heater, as herein set forth.

Also, in combination with the slide *D*, provided with the rib guides *b b*, the arrangement of the pivot stem *c* with the pin *g* and the guide socket *d* with slots *f*, the whole operating in the manner and for the purpose set forth.

**66,536.**—WM. H. THOMAS, Chicago, Ill.—*Machine for Grinding Clay*.—July 9, 1867.—Some of the spiral blades run the whole length and as they become shallower other spirals are interposed. The depressions become shallower towards the discharge end of the box.

*Claim.*—The screw rollers *A A*, having screw threads *B* running their entire length, and alternate



screw threads C, extending to a point near the feed hopper J, the depressions between the screws at the tail I of the rollers being made deeper than at the feed end, substantially as and for the purpose set forth.

**66,537.**—THEODORE THURBER, Auburn, N. Y.—*Steam Piston Packing.*—July 9, 1867.—Improvement on his patent of March 26, 1867. The face of the ring is circumferentially grooved and steam admitted to the groove to compensate for part of the outward steam pressure.

*Claim.*—The grooves or recesses in the edges of the packing ring C, as and for the purposes herein specified.

**66,538.**—T. VAN KANNEL, Cincinnati, Ohio.—*Door Spring.*—July 9, 1867.—A bar is hinged to the face of the door near its upper edge and its outer end is attached to a spiral spring connected to a projection from the lintel. The action is to close the door gently.

*Claim.*—First, a door spring, made and operating substantially as herein shown and described.

Second, the extension bar *d*, when made and operating substantially as herein shown and described.

Third, the rubber bolster *h*, in combination with the rod *d*, for the purpose of preventing the latter from being thrown against the door when the same is opened and to assist in throwing it back when the door is being closed.

Fourth, the swing lever *d* attached to the door A, and operated by a spring *f*, which is attached to an adjustable projection *g* from the lintel of the casing, as set forth.

**66,539.**—ENOCH WAITE, Franklin, Mass., assignor to himself and S. M. WELD, Sr., Jamaica Plain, Mass.—*Carpet Wadding.*—July 9, 1867.—Explained by the claim.

*Claim.*—An improved carpet wadding, composed of one or more bats of fibrous material and one or more layers or sheets of paper, combined by imbedding or pressing the fibrous bat or bats upon and into the paper while the latter is in the condition of partially hardened pulp capable of receiving the fibers of the bat or bats, and when dry of adhering and holding them in place or in connection with the sheet or sheets of paper without the use of starch, paste, or an adhesive gum as heretofore employed for such purpose.

**66,540.**—MAXIMILIAN WAPPICH, Sacramento, Cal.—*Joints of Metallic Casks, &c.*—July 9, 1867; antedated June 29, 1867.—The packing grooves are beside the lines of rivets.

*Claim.*—The improved mode of rendering impervious the joints made in barrels, tanks, or other vessels which are constructed of sheet or plate metal, by the insertion of a packing of soft metal or alloy in grooves provided for that purpose, which are not in line with the rivets or bolts and are so constructed and arranged that such packing may be inserted after the riveting has been completed, substantially as and for the purpose described.

**66,541.**—NORMAN W. WHEELER, Brooklyn, N. Y.—*Condenser.*—July 9, 1867.—The devices secure the automatic regulation of the pressure in the eirenlatory cavities in relation to the pressure in the vacuum cavities, measured quantities of fluid being taken from the space in which the pressure is comparatively greater and introduced into the one when the reverse condition exists.

*Claim.*—First, the combination of the piston *l* with the valved circulating heads or inlets F F', or their equivalents, substantially as and for the purpose described.

Second, the combination of the valve B<sup>2</sup> with the pot B, or its equivalent, substantially as and for the purposes described.

Third, the combination of the shifting or air force pump *t u w* with a surface condenser, when the delivery valve *w* is loaded, substantially as and for the purposes described.

**66,542.**—ROLLIN WHITE, Lowell, Mass.—*Revolving Fire-arm.*—July 9, 1867.—A movable plate covers the open end of the chamber to prevent the accidental dropping out of the cartridge, but is retractible for withdrawing the cartridge shell. The fulminate of

the cartridge is contained in a projection at its rear end and is exploded between a hammer and anvil.

*Claim.*—The rotating, many-chambered cylinder and the frame, constructed so that the cartridge or shells can be ejected without dismounting the cylinder, in combination with the movable obstructor, pressing directly against the ends of the cartridges and detaining them in the cylinder, as well when it is rotating as when in position for firing, and with a spring to force back the movable obstructor against the end of the cylinder, substantially as and for the purpose specified.

Also, in combination with the rotating, many-chambered cylinder, the vibrating anvil to support the primed portion of the cartridge, in combination with the hammer, or equivalent, for striking the opposite side of that portion of the cartridge which contains the fulminate priming, substantially as and for the purpose specified.

**66,543.**—THOMAS WHITWELL, Stockton-on-Tees, England.—*Oven or Blast for Heating the Blast of Blast Furnaces.*—July 9, 1867; antedated November 10, 1865.—Two similar chambers are alternately heated by burning gas emitted from blast furnaces during smelting and the blast to be heated is passed through the compartments of said chambers. The partition walls have alternate top and bottom openings for the passage of the blast and have openings for the cleansing and removal of the collected dust.

*Claim.*—The construction of furnaces, ovens, or chambers with internal walls or partitions for heating the blast for blast furnaces, with openings at the top capable of being closed by means of plugs or doors, and also with openings at the bottom of the sides thereof capable of being closed by means of doors or valves, and the whole acting substantially as herein described for the purpose of cleansing the interior of such furnaces, ovens, or chambers from dust, as hereinbefore described.

**66,544.**—C. A. WILLARD, Belleview, Ohio.—*Carriage Shaft Coupling.*—July 9, 1867.—The key slide running in grooves in the stay engages the flanges of the shaft until it is raised vertically, when the notch coincides with the key and allows the withdrawal of the shaft.

*Claim.*—The slide G as arranged, in combination with the stay B and shaft C, provided with a notch F, for the purpose and in the manner as set forth.

**66,545.**—JOSEPH S. WOOD, Philadelphia, Pa.—*Apparatus for Carbureting Air and Regulating its Flow.*—July 9, 1867.—The bellows are moved by clock-work forcing air through the valve-way into the receiver, thence to the carburetor, the absorbent materials in which are saturated with gasolin and part with it to the air which is conducted to a gas holder.

*Claim.*—First, utilizing the interior of the double-ease water vessel A B, by the arrangement of the pump G, inverted receiver C, and pipe D, operating as an air-foreing apparatus, substantially as specified.

Second, the valve K, constructed with a head K<sup>1</sup>, elastic seat K<sup>2</sup>, and with conical plain sides tapering at the angles shown, and operating substantially as described.

Third, the construction of the vessels F, with a chamber formed between the diaphragm plate H, and the bottom *f'*, in which the carburetor N *n'*, or its equivalent, operates in combination with the inverted receiver O, with a suspended valve pipe R, and outlet R', substantially as shown and specified.

Fourth, the arrangement of the carbonizer N, pipes *n'*, conical partition H, valve K, receiver O, and pipe R, and vessel F, substantially as described.

Fifth, the air-foreing arrangement T, in combination with the carbureting air arrangement W, substantially as described.

**66,546.**—W. DEWEES WOOD, McKeesport, Pa.—*Annealing Sheet Iron.*—July 9, 1867.—The box has track wheels. Its lower plate has an upwardly projecting rim to hold the sand used as luting. The top is a rectangular box which is inverted over the pack of sheets and is clamped at the bottom portion.

*Claim.*—First, the use, in the process of annealing sheet iron, of boxes so constructed, substantially as hereinbefore described, that the sheets may be com-



pressed between the top and bottom of the box for the purpose of preventing their discoloration.

Second, the use of annealing boxes so constructed as that the box piece and bottom piece may be clamped or securely fastened together for the purpose of preserving the shape of the box and preventing its warping while cooling, substantially as hereinbefore described.

Third, annealing imitation Russia or other glazed or polished sheet iron, in packs or layers, forcibly compressed together and held under rigid compression during the process of annealing.

**66,547.**—D. W. WRIGHT, New York, N. Y.—*Combination of Paper Weight and Pen Wiper.*—July 9, 1867.—The cloth is strained by a metallic sleeve over the upward projections from the weighted base.

*Claim.*—A paper weight and pen wiper combined, constructed substantially in the manner as and for the purposes set forth.

**66,548.**—FREDERICK ASHLEY, New York, N. Y.—*Boot and Shoe Sole.*—July 9, 1867.—The tap sole is attached to the sole by clamps, the rear two of which engage in notches of the sole behind the widest portion.

*Claim.*—The method of securing the rear end of the detachable half sole by clamps arranged in relation to the notches *a* substantially as set forth.

**66,549.**—DWIGHT BARCOCK, Seneca Falls, N. Y.—*Bed Bottom.*—July 9, 1867.—The slats are mainly longitudinal and attached to the springs by a ribbon which passes within the upper coil of each spring and over the slat. The head slat is transverse and at a higher elevation.

*Claim.*—First, securing the upper slats *D* to the spring *C* by means of ribbons *E*, substantially in the manner and for the purposes herein specified and described.

Second, a head rest arranged in a spring bed bottom and consisting of the boards *F* and *G*, springs *d d* and ribbons *f f*, all made, secured and connected substantially in the manner herein specified and described.

**66,550.**—L. V. RODGER, Chicago, Ill.—*Animal Trap.*—July 9, 1867.—The falling doors are connected to a sliding door having a trigger at its lower end, which trigger engages a catch on a tilting platform. The platform has a bait cavity covered by a wire grate. The tilting of the platform releases the sliding door, which is drawn up by the descent of the falling doors and opens the passage to the inner compartment. The entrance of the rat to the latter resets the trap.

*Claim.*—First, the combination of the connecting rods *C* and slide *D*, having a trigger *d'* formed upon or attached to its lower end with each other and with the pivoted doors *B* and side of the box *A*, substantially as herein shown and described and for the purpose set forth.

Second, forming a bait chamber in the pivoted platform *F*, substantially as herein shown and described and for the purpose set forth.

**66,551.**—DANIEL S. BECKLEY, Toledo, Iowa.—*Washing Machine.*—July 9, 1867.—The fluted block is oscillated over the segmental grate, being supported on a rock bar and having radial adjustment by a cord which passes from it over a sheave on the rock bar and to the lever frame by which it is actuated. Spiral springs on the connecting rods of the rock bar and block serve to depress the latter.

*Claim.*—A washing machine in which the pressure upon the clothes, placed between the rubbing board *F* and concave *G*, may be regulated by means of the spring *E*, lever *H*, cord *I*, and pulley *K*, when combined and arranged to operate substantially as set forth.

**66,552.**—GEORGE J. BENNET, Homer, N. Y.—*Cream Strainer.*—July 9, 1867.—The cylindrical receiver has a funnel-shaped bottom ending in a cylindrical chamber having a removable wire-gauze bottom, with sectoral inclined plates which force the cream through the gauze by their revolution.

*Claim.*—First, the screw *C*, when arranged, as described, in combination with the removable strainer

*B*, all made and operating substantially as herein shown and described.

Second, the hopper *G*, when arranged, as described, in combination with the strainer *B*, screw *C*, and bottom *a* of the vessel *A*, all made and operating substantially as set forth.

Third, a cream strainer made and operating substantially as herein shown and described.

**66,553.**—WM. BICKNELL, Hartford, Maine.—*Washing Machine.*—July 9, 1867.—The fluted cover is held down by a sliding bar and operates with the perforated fluted plunger to press the clothes. The plunger is actuated by a lever oscillating on an adjustable post.

*Claim.*—First, the combination with the tub *B* of the fluted removable cover *C* and perforated dasher *E*, all made and operating substantially as and for the purpose herein shown and described.

Second, the dasher *E* and cover *C*, in combination with the rods *F* and *b*, lever *H*, hook *e*, and rack *f*, all made and operating substantially as and for the purpose herein shown and described.

**66,554.**—BENJAMIN S. BOYDSTON, Richmond, Ind.—*Bag Holder.*—July 9, 1867.—The holding hoop is adjustably attached to a board which is vertically adjustable upon its standard.

*Claim.*—The metallic hoop *C*, with its spurs, when secured to the board *B*, by means of the keepers *m m*, in such a manner as to be contracted or expanded to suit the mouth of the bag, as specified.

**66,555.**—SAMUEL BRACKETT, Port Huron, Mich.—*Washing Machine.*—July 9, 1867.—The spirally-grooved roller rotates within the concave, which consists of segmental staves connected by spring plates and drawn to the roller by arms proceeding from their upper ends.

*Claim.*—First, the flexible semi-circular concaves *F F*, when pivoted to sliding plates *D* and operated by handle *G*, in combination with the revolving or oscillating roller *C*, all made and operating substantially as herein shown and described.

Second, the friction rollers *E*, when arranged adjustably around the roller *C* by being secured in flexible frames *d d*, which are hinged to sliding plates *D*, the latter being operated by springs *b*, as set forth.

**66,556.**—W. A. BRICKILL, New York, N. Y., assignor to himself and J. A. STERLING, same place.—*Car Axle.*—July 9, 1867.—The abutting ends of the two sections of the axle have enlargements enclosed by flanged sleeves, and axial recesses occupied by a cylindrical pin snugly fitted therein. The flanges of the collars are bolted together, and have a radial oil hole.

*Claim.*—The combination of the supporting pin *B*, the bored and enlarged inner ends of the two parts *A* of the axle, and the collar *C*, substantially as and for the purpose specified.

**66,557.**—JAMES H. BRIDGINS, Astoria, N. Y.—*Ice Pick.*—July 9, 1867.—The conical picks project longitudinally from the metallic face of the ferule.

*Claim.*—An improved ice pick, made with a suitable handle or holder, provided with a series of prongs or picks, substantially as described.

**66,558.**—CHRISTOPHER BRÜHL, Green Point, N. Y.—*Machine for Stripping the Hide from Cattle.*—July 9, 1867.—The belly split is made in the hide, and the edge loosened and passed between the fluted rollers, which by rotation draw the hide over the adjustable knife, stripping it from the animal.

*Claim.*—The fluted rollers *A A*, in combination with the adjustable knife *E*, all arranged substantially in the manner as and for the purpose set forth.

**66,559.**—JOHN BURT, Westport, Mass.—*Grain Dryer.*—July 9, 1867.—The cylinder is formed of slats and gauze, is supported in a covered frame upon a truck, and rests upon rollers by whose rotation it is actuated.

*Claim.*—A grain dryer and saver, constructed and operating as herein set forth for the purpose specified.

**66,560.**—DEXTER H. CHAMBERLAIN, West Roxbury, Mass.—*Hand Stamp.*—July 9, 1867.—The



wheels, whose perimeters are figured for the month, day, and year, are journaled on the same axis, which is enlarged to suit the larger middle one by an eccentric on the shaft. The inking ribbon is stretched across the face of the die by the vibration of the arm.

*Claim.*—First, mounting the type wheels of a hand stamp on a common axis or shaft to which the latter is secured, an eccentric disk serving as a centre or axis for one of the wheels, whereby wheels of different diameters may be used so that the lower part of their perimeters may be brought to bear in a common plane and in a small compass within the die plate.

Second, the pivoted arm *m*, in combination with the stand *S* and inking ribbon *K*, for the purpose of enabling the inking ribbon to be slackened when its position is to be changed upon the die plate.

**66,561.**—DEXTER H. CHAMBERLAIN, West Roxbury, Mass., assignor to NATHANIEL L. CHAMBERLAIN, Boston, Mass.—*Hand Stamp.*—July 9, 1867.—Improvement on his patent of January 22, 1867, to facilitate the reading of the large type wheel which indicates the day of the month. On the side of the wheel are figures and on the frame a finger; the coincidence of the latter indicates the lower figure on the wheel, which is in position to an impression. The side wheels indicate month and year.

*Claim.*—The type wheel *b*, having figures upon its sides, in combination with an indicator, when the said wheel is arranged between two wheels of smaller diameter, as and for the purpose specified.

**66,562.**—N. L. CHAMBERLAIN, Boston, Mass.—*Dies for Raising Letters on Type Wheels.*—July 9, 1867.—The outer segments have an inner perimeter with sunken letters, and are contained in a ring. The annulus, which is to form the tire of a type wheel, is expanded by segments and a tapering plunger, so as to raise letters on the periphery of said annulus.

*Claim.*—The combination of a tapering plunger *c* with the segmental blocks *b b*, arranged within a die block, and having letters or figures sunk on their inner faces, as described, and with or without the interposition of the inner segment *e e*, whereby, as the plunger is forced through the center of the die, corresponding letters or figures will be formed on the outer face of a ring *d*, substantially as described.

**66,563.**—DANIEL W. COLBURN, Laconi, Ill.—*Axe.*—July 9, 1867.—Explained by the claim.

*Claim.*—An axe having its edge shaped as a semi-circle, substantially as and for the purpose described.

**66,564.**—DANIEL C. COLBY, Washington, D. C.—*Bed Bottom.*—July 9, 1867.—The back rest is so arranged in connection with the bed bottom that it may be adjusted at any angle to the bottom frame, and at any distance from the head or foot.

*Claim.*—First, the combination of the extra frame *B* or its equivalent with the ordinary spring bed bottom, when arranged and operating substantially as and for the purposes set forth.

Second, the combination of the rod *g'*, the elastic straps or cords *i i*, or their equivalent, the bars *a a* and the staples *j j*, as and for the purposes shown.

Third, the use of the rods *k k* in conjunction with the bars *a a*, straps *i i*, and staples *j j*, to sustain the frame *B* in the various positions shown and described.

**66,565.**—VERPLANCK COLVIN, Albany, N. Y.—*Device for Stretching and Drying Skins.*—July 9, 1867.—The expansible frame is slipped into the retroverted skin and sprung outward to stretch the skin, whose open end is tied to the frame to prevent contraction.

*Claim.*—First, the light frame of wire or bamboo or other suitable material braced substantially as shown in drawings, also the rings *d d*, the teeth *e e*, and the hook *c*, for the purpose hereinbefore mentioned, essentially as before shown and described.

Second, the light, portable, and adjustable wire or bamboo, &c., drying frame and stretcher, as aforesaid.

**66,566.**—HELI CONKLIN, Kirkwood, N. Y.—*Boot Crimping Machine.*—July 9, 1867.—The piece of leather is lapped around the edge of the "former," which is then forced between the cheek pieces, whose corners extend the angles to crimp it into shape.

*Claim.*—The form *H* with its projections *G G* in combination with the arrangement and construction of the machine, substantially as described and for the purpose set forth.

**66,567.**—HENRY A. COOKE, Charlestown, Mass.—*Bed Bottom.*—July 9, 1867.—The longitudinal slats are connected by transverse bars and elastic straps, and suspended by elastic rings from hooks on the side rails.

*Claim.*—The arrangement of slats *C C* connected by the rubber strips *g g* and bars *D D*, said bars being provided with the loops *a a* for connecting to the bed bottom, as herein described and for the purposes set forth.

**66,568.**—EDWARD CROFT, Waterbury, Conn.—*Machine for Making Screws.*—July 9, 1867.—The blank is fed in between the dies, and rolling between them the screw is cut thereon.

*Claim.*—First, the revolving and stationary threading dies, when the same shall be constructed and combined substantially as shown for the purposes specified.

Second, in combination with the revolving and stationary dies *C D* the knurling dies, when the same shall be constructed and operated substantially as shown for the purposes set forth.

**66,569.**—J. E. CROMWELL, Jackson, Mich.—*Machine for Forming Wagon Axles.*—July 9, 1867.—For turning the arms of wagon axles by a combination of saws and cutters. The feed operates against a pattern, and the ends are acted on simultaneously as the gauge pulleys traversing the patterns are actuated by the right and left screw shaft.

*Claim.*—The arrangement of the pendent frame *T* containing the gear wheels *Y Y* and *W*, pattern *N*, resting on the gauge pulleys *M*, the movable frame *A*, saws and cutters *I* and *I'*, lever nuts *D<sup>2</sup>*, screw feed shaft *L*, and weights *G<sup>2</sup>*, substantially as herein shown and described for the purposes specified.

**66,570.**—JEREMIAH DARLING, Cincinnati, Ohio.—*Rotary Steam Engine.*—July 9, 1867.—The steam is admitted through openings in the stationary face plate, against which the rim of the cylinder revolves. The pistons are segments of cylinders and moved in curved slots by the agency of springs and rollers so as to pass the abutments which are fast to the face plate and have spring packings.

*Claim.*—First, the combination of the semi-circular valves *E* with their springs *F* and rollers *G*, operating as herein described.

Second, the cylinder, when constructed with its valves *E* and packings *H*, and operating against a stationary face plate *C*, having its eccentric *L*, guides *M*, abutments *N*, all arranged and combined as herein described and for the purposes set forth.

**66,571.**—JAMES DEPEU, Peekskill, N. Y.—*Car Coupling.*—July 9, 1867.—The head of the link bar enters the flaring mouth of the draw head and raises the latch, the latter falls with a hook on each side of the bar. The bar is coupled by a lever above, which lifts the latch.

*Claim.*—First, the bar *B* provided with hooks *f f*, in combination with the link *C*, inclined bottom plate *d*, and stop *h*, substantially as described for the purpose specified.

Second, the rock shaft *F* in combination with the lever *G* and loop or eye *m* on bar *B*, all made and operating substantially as herein shown and described.

Third, a car coupling box and appendages, made and operating substantially as herein shown and described.

**66,572.**—WM. R. DUGDALE, Penn township, Ind.—*Gate.*—July 9, 1867.—The gate is adjustable vertically, and the post sustained by bracing to a second post.

*Claim.*—Combining and applying to gate posts the attachment of braces, ties, and arms, and also of combining and affixing the aforesaid attachments to gates, in the manner and for the uses substantially as herein set forth and described.



**66,573.**—CHARLES J. EAMES and CHARLES A. SEELY, New York, N. Y.—*Compound for the Treatment of Oil for Lubricating.*—July 9, 1867.—India-rubber is dissolved in benzine, with the addition of some fixed oil or fat. The object is to prepare a solution of rubber for the purpose of treating petroleum, fats, &c., so as to improve them as lubricating materials.

*Claim.*—The compound or preparation herein described for treating oils in the manner and for the purpose described.

**66,574.**—JOHN EARNSHAW, East Greenwich, R. I.—*Loom.*—July 9, 1867.—The thread is passed through the tubular needle, which when projected passes into a recess in the race bar of the shuttle. The said bar is connected to and moves with the lay. A side recess of the needle admits the point of the shuttle in its passage. The needle operator is driven by a swinging arm, and has a stud engaging either of the needles, which is brought into operating position.

*Claim.*—First, the shuttle T, arranged to operate vertically, and crossing the head of the needle so as to interlace the shuttle thread with the filling thread, substantially as set forth.

Second, the employment of two or more filling thread carriers in combination with a device for catching and retaining the filling thread at each movement of the filling carriers, substantially as set forth.

Third, a tubular needle or thread carrier constructed and operating substantially in the manner herein set forth.

Fourth, the notch *c* in the shuttle race, in combination with a filling thread carrier and shuttle T, as and for the purpose specified.

Fifth, the depression E formed at or near the point of a tubular filling thread carrier, substantially as and for the purpose set forth.

Sixth, the needle operator L, arranged to operate the filling thread carrier, substantially as described.

**66,575.**—JOHN H. ELWARD, Mendota, Ill.—*Clamp for Ropes or Wires.*—July 9, 1867.—The rope is carried over the pivoted cam lever, and passes under its lower end, where it is compressed between it and the projection below, being automatically held by its own tension.

*Claim.*—A device for suspending a rope or wire, in which its own strain is made to act upon the long arm B<sup>2</sup> of the cam lever B, thereby compressing the rope or wire between the short arm B' and a projection C, substantially as set forth.

**66,576.**—JAMES EMERY, Bucksport, Me.—*Lamp Shade.*—July 9, 1867.—The carrier slides through the slits of the screen, the friction at its connection retaining it in position within the limits of its motion.

*Claim.*—The new manufacture of lamp shade, or the combination of the screen A, and the three-pronged carrier B, constructed and applied together substantially in manner as specified.

**66,577.**—A. FESSENDEN, Beaufort, S. C.—*Cotton Gin.*—July 9, 1867.—The bearings of the lower roller are adjusted in the plates by a set screw, and are regulated in connection with the movable platform and the curved vibrating knife, to facilitate the removal of the seed. A brush below cleans the roller.

*Claim.*—First, the roller G, when hung in the swinging plates H, in which it is adjustable up and down, in combination with the adjustable platform F and adjustable seed clipper I, all made and operating substantially as herein shown and described.

Second, the yielding seed clipper I, when arranged substantially as herein shown and described, with rounded lower edge, in combination with the rollers E and G of a cotton gin, substantially as and for the purpose herein shown and described.

**66,578.**—JESSE P. FULGHUM, Milton, Ind.—*Seed Drill.*—July 9, 1867.—The adjustable deflecting rack is regulated by elongated slots to guide the seed, either in front of or behind the teeth.

*Claim.*—The adjustable deflecting rack K, secured either to the hopper B, or any other part of the drill, (and made adjustable by means of the slotted projections N N and screws M M,) or their equivalents,

substantially in the manner and for the purpose described.

**66,579.**—ALBERT FULLER, Brooklyn, N. Y.—*Gauge Cock.*—July 9, 1867.—Pressure on the knob compresses the spring, and opens the valve for the passage of fluid; the elasticity of the annular spring closes the valve when pressure is withdrawn.

*Claim.*—The arrangement and combination of the sliding collar F, interior collar *d* and spring G, with the body A and valve stem C, said spring having a valvular or closing action at its opposite ends, essentially as shown and described.

**66,580.**—ALBERT FULLER, Brooklyn, N. Y.—*Hydrant Valve.*—July 9, 1867.—Near the lower end of the tube is a perforation, which may be brought into coincidence with a waste way. At the end of the tube is an eccentric stud, which opens or closes the main valve as the tube is rotated.

*Claim.*—The valve I, linked in an eccentric manner by pin or stud S, or its equivalent, to the tube L, by the oscillation of which the valve I and waste aperture *m c* are controlled, substantially as set forth.

**66,581.**—FRANKLIN B. GAGE, St. Johnsbury, Vt.—*Making Positive and Negative Photographs in the Camera.*—July 9, 1867.—A partial development in the camera is permitted by the aid of diffused light deflected from a dark surface; the development is afterward completed in the usual way, taking the precaution to reduce with water the strength of the developing fluid.

*Claim.*—In photography the employment of diffused light under the conditions herein specified, so as to render visible slight graduations of shade, both in the light and dark parts of the pictures, and to unite softness with strength, as herein explained and set forth.

**66,582.**—HENRY GRANSDEN, Dubuque, Iowa.—*Clothes Dryer.*—July 9, 1867.—The arms are hinged to the collar on the summit of the rotating standard, and are supported by pivoted braces attached to an adjustable sleeve, which slides on the standard.

*Claim.*—As a new article of manufacture a clothes dryer, consisting of the sliding sleeve E, braces D, pivoted arms C, flanged band *a* and pole B, all arranged to operate on the post A, as herein shown and described.

**66,583.**—ROBERT R. GRAVES, Montgomery, Ala.—*Gang Plow.*—July 9, 1867.—The draw beam connecting by spur wheels and an endless chain with the vertical crank shaft raises the plows over obstructions, in which position they are secured by the action of the hand lever, in combination with the rod beneath, a cam shoulder on the latter engaging the crank shaft.

*Claim.*—First, the combination of the draw beam C, having the segment spur wheel *c'* with the vertical shaft L, having the spur wheel *i*, substantially as and for the purpose described.

Second, the combination of the movable frame F F', with the shaft I, wheel M, endless chain M' and wheel *m*, worked by the crank *m'*, substantially as and for the purpose specified.

Third, the combination of the rails K K, springs *k'* *k'*, arms *k k*, trucks *f f* and frame F F, substantially as and for the purpose described.

Fourth, the combination of the rod N, spring *p'*, lever P and arms *r r'*, substantially as and for the purpose specified.

**66,584.**—JOHN C. HALL, Monroe, Wis.—*Harvester Rake.*—July 9, 1867.—The curved staff is connected to two levers oscillated by connections to a rotating double crank shaft.

*Claim.*—Operating the rake C by means of the curved staff D, hinged levers D and F, of different lengths, compound crank L, and connecting rods M N, substantially as and for the purpose set forth.

**66,585.**—H. A. HARVEY, New York, N. Y.—*Screw.*—July 2, 1867.—The hemispherical screw-head has radial holes to receive pins on the jaws of the driver. The jaws are brought together by the sliding ring.



*Claim.*—First, constructing wood screws of the globular head form with the oblique holes *aa* in the heads thereof, substantially as shown and described, in combination with the gimlet painted screw, as a new article of manufacture.

Second, in combination with a screw thus formed, the screw-driver B, constructed substantially as described for the purposes set forth.

**66,586.**—JOSEPH HARVEY, Philadelphia, Pa., assignor to HARVEY and FORD, New York, N. Y., and Philadelphia, Pa.—*Bone Handles for Canes, &c.*—July 9, 1867.—The side pieces forming a section are attached together by cloth-covered strips, which are glued within longitudinal grooves in the said pieces. The different sections whose ends abut against each other are secured together by bone ferrules which screw thereon.

*Claim.*—The bone handles for parasols, umbrellas, canes, and other articles constructed as described, consisting of the section B formed in one piece, sections C C and D D attached together by means of the metallic strip *b* covered with cloth, all secured together by means of the screw ferrules E, substantially as described for the purpose specified.

**66,587.**—E. K. HAYNES, Hanover, N. H.—*Hand Tobacco Cutter.*—July 9, 1867.—The under cutter is attached to the lower bar. The pivoted lever carrying the upper is depressed by a cam lever and raised by a spring. The tobacco falls into the receiver, and is acted on by the studded disk.

*Claim.*—In combination the finger-looped bed piece, the priming lever, and the thumb-looped secondary lever, when arranged in combination with a spring and otherwise, substantially as described.

Also, in combination with the foregoing a receiver and its counterpart, arranged to operate substantially as described.

**66,588.**—L. S. HICKS, Omro, Wis.—*Carpet Fastener.*—July 9, 1867.—Explained by the claim and illustration.

*Claim.*—The carpet fastener, consisting of the curved plate B, provided with the inward projecting teeth C, its inner side D, attached to the side wall by means of spring plate E, or equivalent, substantially as described for the purpose specified.

**66,589.**—ALBERT V. HILL, Limestone, N. Y.—*Tug Trimmer.*—July 9, 1867.—The tug blank is drawn under the spring roller and between the adjustable and fixed knife, a scale serving for adjustment.

*Claim.*—First, the knives G and blocks E and F, in combination with the adjusting screw C and frame A, having a scale marked upon it, substantially as shown and described and for the purpose set forth.

Second, the combination of the roller I, roller frame H and coiled springs J, with each other and with the frame A, substantially as herein shown and described and for the purposes set forth.

**66,590.**—JAMES HOWARD and E. TENNEY BONSFIELD, Bedford, England.—*Steam Generator.*—July 9, 1867; antedated January 11, 1867.—Vertical pipes are connected by transverse tubes at bottom and top, and the vertical pipes have inner tubes resting by acute points on the lower pipes. The pipes form a rectangular section, and a number of these sections are connected together by longitudinal pipes, to form a steam generator.

*Claim.*—First, the inner tubes F, provided with the slits near their tops whereby the differential water lever is obtained in combination with the transverse pipes B, containing divisions C, as herein described for the purpose specified.

Second, securing a water-tight joint between the tubes and transverse pipes in the manner above described.

Third, the fire-bricks *d d*, constructed as described, when employed to fill the spaces between the outer tubes B, as herein set forth for the purpose specified.

**66,591.**—EDMUND HUDDART, Prairie du Sac, Wis.—*Door Holder.*—July 9, 1867.—The staple attached to the door is engaged by the catch pins secured to the wall.

*Claim.*—The arrangement of staple and plate A B, the stud and plate C D, and the spring *c c*, sub-

stantially as shown and described for the purposes herein set forth.

**66,592.**—GEORGE IRWIN, Elizabethtown, Ky.—*Animal Trap.*—The rat in coming in contact with the spring-drop closes the trap behind him, and passing the inner spring-drop locks himself in the inner section; by the connection of the looped shafts by the setting wire the trap is reset.

*Claim.*—First, the combination of the spring-drop I, upright arm or catch K, horizontal arm G and shaft F of the outer gate D, with each other, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the inner spring-drop O, shaft M, and levers R and S, and the wire catches U and X, with each other, for the purpose of unlocking the drop-gates, substantially as herein shown and described.

Third, connecting the looped shafts M and E to each other by the connecting rod or wire A', so that the outer drop-gate D may be opened and set by opening the inner drop-gate L, substantially as herein shown and described.

**66,593.**—R. H. JACKSON, Sandusky, Ohio, assignor to himself and A. C. VAN TINE, same place.—*Boiler Safety Gauge.*—July 9, 1867.—The three pipes ascend from various elevations within the generator, and communicate with a cylinder enclosing a float. When the water covers the mouth of either pipe, which is connected with the cylinder by opening its valve, the float is raised and closes a valve within the cylinder. The admission of steam to the cylinder, consequent on the fall of the water below the mouth of the pipe, depresses the float and opens the valve, which admits steam to an upper cylinder, whose piston rod opens a valve in a water pipe and discharges water upon the fire.

*Claim.*—First, the pipes K F and L, as arranged in combination with the cylinders A and C and boiler G, for the purpose and in the manner described.

Second, the valve O, when arranged and operated by the lever N and float N', when in the relation to the piston *a*, substantially as and for the purpose set forth.

**66,594.**—RICHARD P. JOHNSON, Wabash, Ind., assignor to himself and ELI J. SUMNER, same place.—*Apparatus for Drying Lumber.*—July 9, 1867.—The loaded railroad trucks are run into a steam chamber, and then into a hot-air drying chamber, traversing upon transfer trucks upon tracks connecting the two chambers.

*Claim.*—First, the combination and arrangement of the furnace C, flue D, and perforated plates E, by which the products of combustion are discharged directly into the chamber A among the lumber, being driven through such chamber and discharged through the chimneys M, as herein described for the purpose specified.

Second, the tubes N, arranged in relation with the flue D, whereby the draft through the chamber A is accelerated, as herein set forth for the purpose specified.

**66,595.**—ALBERT D. JUDD, New Haven, Conn.—*Cupboard Latch.*—July 9, 1867.—The latch plate has two holes for the pivot screw, allowing, by inversion of the plate, the use of the latch on either right or left side of the door. The porcelain knob is attached by a traversing rivet.

*Claim.*—First, the latch plate *a*, having two holes to admit the screw or fulcrum of the latch *b*, so as to allow the same to be reversed, as set forth.

Second, the cylindrical flange *c*, in combination with the porcelain knob *f* and rivet *i*, arranged substantially as and for the purposes set forth.

**66,596.**—E. C. KIRK and E. SNEIDER, Baltimore, Md.—*Magazine Fire-arm.*—July 9, 1867.—When the magazine is emptied, the sliding tube containing the spring and follower is withdrawn until a notch engages the detent spring. The tube is then turned, to bring the stop into the offset of the outer tube, and the spring depressed by sliding the tube inward. A further turn then brings the stop into an offset of the inner tube, when the latter tube may be drawn



out sufficiently to expose the cartridge inlet in the side of the tube. A back turn releases the spring.

*Claim.*—First, confining the sliding magazine tube of a repeating fire-arm by means of a spring forming an adjustable detent, permitting at pleasure the entire withdrawal of the tube from the gun, substantially in the manner herein set forth.

Second, the combination of an inner longitudinally slotted magazine tube B, with an enclosing longitudinally grooved or slotted tube A, and with the feeding mechanism of a repeating fire-arm, all substantially in the manner and for the purpose herein set forth.

Third, the combination and arrangement of slot *a* and offset *g*, in the magazine tube B, with slot or groove *b* and offset *f*, in stationary enclosing tube A of a repeating fire-arm, for the purpose of automatically retracting and detaining the plunger C of the magazine tube, all substantially as herein set forth.

Fourth, the combination of a guard spring F with the loading aperture K of a magazine tube B, when said aperture is formed in the side of the tube, substantially in the manner and for the purpose herein set forth.

**66,597.**—JOHN A. KRAKE, Alden, N. Y.—*Subsoil Attachment to Plows.*—July 9, 1867.—The standard of the subsoil plow is adjusted by bolt holes to the required depth. The standard bears against a friction roller in the front of the elongated slot and has a vibrating spring attached thereto. A flat connecting spring secures the standard to the mold board of the forward plow, allowing the subsoil plow to oscillate and regain its position.

*Claim.*—First, the combination and attachment of a subsoil plow to a common plow in such manner that it shall be drawn in the line of draft of the common plow to which it is attached and be free to oscillate right and left and vertically without throwing it out of the line of draft, substantially as described.

Second, the connecting spring I, applied and used for the purpose and substantially as described.

Third, the spring J applied and used in combination with the standard F and bracket G, for the purpose and substantially as described.

Fourth, the bracket G, having a friction roller *h* as a means of supporting and guiding the standard of the subsoil plow, substantially as described.

**66,598.**—E. KRIEGHOFF, Rochester, N. Y.—*Bedstead and Bed Bottom.*—July 9, 1867.—The springs are hooked to the frames so as to be detachable. The frames are jointed and may be folded together. The legs are also detachable.

*Claim.*—First, the combination of the metallic frame enclosing the springs with the rail and revolving pins, substantially as described for the purpose specified.

Second, the combination of the metallic spring frame with the adjustable head rest, substantially as described for the purpose specified.

**66,599.**—CHARLES H. LAVIS and JAMES McMILLAN, Philadelphia, Pa.—*Hair Curler.*—July 9, 1867.—The stick being twisted in the hair is kept in position by an elastic loop attached to one end and engaging in a slot at the other.

*Claim.*—The stick A having a slot C formed in one end and an elastic loop B attached at the other end, substantially as herein shown and described.

**66,600.**—SAMUEL C. LEWIS, Woodbridge, Mich.—*Water Elevator.*—July 9, 1867.—Pushing the crank handle withdraws a sliding rod from the spool, leaving the cord free to unwind. On withdrawing the pressure the spring forces out the handle, re-engages the rod, enabling the crank to turn the spool and wind the rope.

*Claim.*—The combination of crank F, spring N, sliding rod G, shaft D, cap L, and spool H, with each other, substantially as herein shown and described for the purposes set forth.

**66,601.**—WILLIAM E. LOCKWOOD, Philadelphia, Pa.—*Nail.*—July 9, 1867.—The hole in the rail is rounded at the edges and receives the wire of a fence or trellis.

*Claim.*—A nail shaped substantially as represented

and having a hole through it with rounded edges, as described.

**66,602.**—JAMES R. LOGAN, Bellmore, Ind.—*Sawing Machine.*—July 9, 1867.—Improvement on his patent Dec. 19, 1865. The frame is adjusted to inequalities in the ground by regulating the position of the rocking, slotted, transverse bar on its guide pins.

*Claim.*—Allowing the frame of the machine to conform to any inclination of the log by means of the slotted transverse bar *a* resting on axle C provided with pins *h*, constructed as described, and operating substantially in the manner and for the purpose specified.

**66,603.**—W. A. LYON, Danbury, Conn.—*Felting Machine.*—July 9, 1867.—The lower reciprocating bed is mounted on grooved rollers running on tracks secured in the vat; the other bed is attached to grooved rollers that run between a double track above. The beds are worked in opposite directions by a double action lever connecting therewith.

*Claim.*—First, as an improvement in the process of felting hats, the rolling of them between a pair of reciprocating beds immersed in hot water, substantially as described.

Second, the combination of the reciprocating beds *a* and *b*, the former mounted on a track in the vat C, and the latter suspended on the adjustable frame B, arranged to operate substantially as described.

**66,604.**—ANDREW S. MCBRIDE, St. Louis, Mo.—*Brick Kiln.*—July 9, 1867.—A series of fire chambers extend the length of the kiln on each side, and have smoke stacks at each end. The top of the kiln has adjustable pivoted metallic dampers.

*Claim.*—First, the arrangement of the series of fire chambers C upon each side of the kiln flooring *b*, upon which the bricks are stacked between said series of fire chambers and the chimneys B at each angle or corner of the kiln, as herein shown and described.

Second, the arrangement of the double series of metallic plates D upon the pivoted rods *e*, the plates of each series overlapping each other, as herein set forth for the purpose specified.

**66,605.**—CHARLES C. and J. McDERMID, Cambria Mills, Mich.—*Brick Machine.*—July 9, 1867.—The wheel attached to the revolving vertical shaft has a track on its under face with cams which, in conjunction with weighted levers, operate the plunger.

*Claim.*—First, the combination with a positive or cam-like action to the lever F, which controls the motion of the follower of a weight to said lever, arranged to give pressing power or force to the follower on relief of the lever from its positive lifting action on the follower, substantially as specified.

Second, the combination with the lever F of the adjustable or sliding weight G, under control of a lever I and rod *l*, or their equivalents, substantially as and for the purpose or purposes herein set forth.

Third, the pusher or pushing frame J, actuated by a cam-like or positive action in its advance stroke and by a weight or weighted lever in its return stroke, substantially as specified.

Fourth, the gear of the rod R, which actuates the pusher J, with the weighted lever M, in a loose or independent manner, under control of a weight O, essentially as and for the purpose herein set forth.

**66,606.**—JOHN W. MCGILL, Washington, D. C.—*Brush for Mueilage, Painting, Gluing, and other like purposes.*—July 9, 1867.—The bristles run through a hole in the handle, and a tube passing down over them holds them in position.

*Claim.*—A brush made by running the hairs or bristles for one half their entire length through the hole *e* in one end of the handle, then doubling down both ends of the hairs or bristles and bringing them into their proper perpendicular position below the end of the handle by running the neck or tube *d* down the handle over the hole *e*, for the purposes set forth and described.

**66,607.**—EDWARD MCGRANN, Louisville, Ky.—*Teakettle.*—July 9, 1867.—The lid swings around on a conical tubular projection near the rear handle lug and is held thereto by a bolt and screw.



*Claim.*—The swinging lid B, having the doubly countersunk orifice E e e', in the described combination with the bossed orifice C D, conical-headed and screw-threaded pivot F f f' f'', and nut G, the whole being combined and arranged as set forth.

**66,608.**—JAMES H. MCLEAN, St. Louis, Mo.—*Dredging Machine.*—July 9, 1867.—The guide frame of the excavator is vertically adjusted by a derriek, and conveys the mud to an endless apron moving transversely. The boat is moored by vertically sliding anchor stakes.

*Claim.*—First, the dredger, the receiving and discharging apron, and the derriek for raising and lowering the dredger, when these respective plates are combined, constructed and operated in relation to each other, substantially as described.

Second, in combination with the dredging vessel the pins L, for the purpose of mooring the same, substantially as described.

**66,609.**—JACOB MILLER, Canton, Ohio.—*Harvester Rake.*—July 9, 1867.—The fork is attached to the sweep rod that slides in the swivel post on the main frame, being driven by the main wheels. A cam track on the platform regulates the position of the fork.

*Claim.*—First, the combination of the swivel post, the sweep rod, fork, and driving arm, with the cam ledges, for giving said fork its projecting and retreating motions in connection with its revolving motion, substantially as described.

Second, in combination with the fork, the post or tang on the driving arm for guiding the ends of the teeth of the fork, and for aiding in moving the grain from the platform, substantially as described.

**66,610.**—GEORGE R. MOORE, Lyons, Iowa.—*Coal Stove.*—July 9, 1867.—A bar extends horizontally across the passage as a fulcrum for the poker in stirring the fire.

*Claim.*—First, in a heating stove the hearth E, constructed as shown, and applied substantially in the manner and for the purposes specified.

Second, the bar or fulcrum F, when used as a part of a stove or heater, substantially in the manner and for the purposes specified and set forth.

**66,611.**—BERNARD MORAHAN, Brooklyn, N. Y.—*Clothes Broom or Whisk.*—July 9, 1867.—The scraper is attached to the end of the handle for loosening dirt that the broom will not remove.

*Claim.*—The combination of the scraper or rubber A, or the equivalent thereof, within a clothes brush or broom, substantially as and for the purposes described.

**66,612.**—BERNARD MORAHAN, Brooklyn, N. Y.—*Brush Holder.*—July 9, 1867.—The adjustable clamping jaw grasps the brush, a screw nut on the socket holding it in position.

*Claim.*—The frame A, having an adjustable clamping jaw G, screw socket B, and nut E, for the purpose and substantially as described.

**66,613.**—S. E. and G. L. MORSE, Harrison, N. J.—*Submarine Telegraph Cable.*—July 9, 1867.—Explained by the claims.

*Claim.*—First, laying a submarine telegraphic cable at assigned places on the line, over a floating body, and then after the catenarian curves on each side are fully formed, depositing the part of the cable included in these curves on the bottom of the sea at right angles or at nearly right angles with the main line, so that it may be raised unbroken to the surface from deep water, substantially as described.

Second, the formation of a floating buoy whose lower, larger and most buoyant part shall always be in deep and comparatively still water, below the violent action of the waves, while the upper part which is to pass through and rise above the waves shall present a small surface to their destructive power.

Third, the combination of a sliding ring, a lifting rope, a guiding wire or rope, and a hook with a barbed shank, to lift a cable or weight in the water, substantially as described.

Fourth, the combination of a sliding ring, a buoy or buoys loaded with a weight that sinks them, a

guiding wire, a hook with a barbed shank, and an apparatus to attach the weight at the proper time from the buoy or buoys, to raise a cable or other body in the water.

Fifth, the hook f, in combination with the tube bar hinged clasp E, substantially as set forth.

Sixth, the combination of a rope H, with hollow glass vessels fastened and incorporated therein so as to diminish the specific gravity of said rope, substantially as described.

Seventh, protecting the hollow glass vessels by casings of wood or other suitable material, and passing strands of the rope over the casings in grooves made for the purpose, substantially as described.

Eighth, connecting a buoy anchoring rope or a guiding rope with its encased buoys, and its floating buoy, by cushioned ferrules with projecting cushions, to diminish the liability to wear at these points from the action of the wave on the floating buoy, substantially as described.

**66,614.**—E. S. MOULTON, Plymouth, Mich.—*Bag Holder.*—July 9, 1867.—The bag is attached to the spikes on the adjustable hoop, which is raised on the standard according to the height of the bag and is secured by the cam lever pressing on the loop that attaches the hoop to the standard.

*Claim.*—The arrangement of the looped hoop C, and cross-piece E, when said loop is conducted to the cross-piece by means of the braces G G, for supporting the bag and secured upon the standard A, by means of the eccentric lever H, and bar F, as set forth.

**66,615.**—THOMAS W. MURRAY, New York, N. Y.—*Steering Apparatus.*—July 9, 1867.—The collars on the rudder post have radial recesses to be engaged by the dog which is pivoted to a stock attached to the deck. The rudder post rises on striking obstructions and falls again into position by its own gravity, being connected with the gearing by a pendent toothed segment which rises freely therefrom. The hand wheel actuates the rudder through a system of gearing.

*Claim.*—The collar C, provided with the recess a, and lifted on and firmly secured to the rudder post, in combination with the pivoted dog b, secured to the deck of the vessel or to a suitable plate or stock attached thereto, substantially as and for the purpose specified.

Also, the steering apparatus arranged with the pendent toothed segment D on the rudder post, with the pinion E gearing into it underneath, substantially as and for the purpose set forth.

**66,616.**—BUTLER G. NOBLE, New York, N. Y.—*Extract of Sea Clams.*—July 9, 1867.—The clams are removed from their shells, washed, and boiled for an hour; the liquor is strained off and evaporated at a temperature not exceeding 190° Fah., until reduced to a thick paste, which is desiccated.

*Claim.*—First, reducing by evaporation the liquor or juice of sea clams, either alone or in combination with other alimentary material to a state of dryness, substantially as and for the purposes herein set forth.

Second, as a new manufacture, solidified extract of sea clams, substantially as herein specified.

**66,617.**—F. J. NUTZ and PHILIP ESTES, Leavenworth, Kansas.—*Governor.*—July 9, 1867.—A lever is operated upon directly by the pressure of steam against a piston and assists in closing the valve irrespective of increased speed of the engine, and conversely. The pressure of the spring partly counteracts the pressure of the steam and is itself regulated by a thumb screw. The eccentric may be used as a throttle, acting directly upon the lever.

*Claim.*—First, the governor valve operated upon by the pressure of the steam pressing upon the piston and rod E, and lever C, producing an effect substantially as described for the purpose specified.

Second, the spring F, with its regulating thumb screw J, arranged substantially as and for the purpose set forth.

Third, the arrangement of the eccentric H, whereby the governor valve can be entirely closed and the steam throttled, substantially as described.

Fourth, the stop motion substantially as shown in Fig. 2, whereby the steam is shut off and the engine



stopped by the breaking or running off of the governor belt, substantially as set forth.

**66,618.**—A. OHLENSLAGER, Jersey City, N. J., assignor to HENRY L. LANSING and GEORGE H. CHASE, Buffalo, N. Y.—*Locomotive Ash Pan*.—July 9, 1867.—Explained by the claims and illustration.

*Claim.*—First, a locomotive ash pan provided with openings *b b* through the bottom, and a corresponding gate or disk plate *m*, which may be moved and placed in a manner to entirely close such openings when the locomotive is running, and opened for the discharge of the ashes and cinders at the proper time and place, substantially as and for the purposes set forth.

Second, an ash pan for locomotives divided into compartments having sloping sides *a a*, for the purposes and substantially as described.

Third, the draft flue B passing centrally through the ash pan, and the adjustable valve cap D, and the inner inverted conical cap D, arranged and operating for the purposes and substantially as described.

Fourth, the rock shaft *d*<sup>2</sup>, arranged in the recesses formed under the inclined sides, in combination with the vertical stem C and connecting link *i*, as a means of raising and lowering the valve cap, substantially as described.

**66,619.**—H. W. OLIVER, New Haven, Conn., assignor to MASON H. THROPE, Danbury, Conn.—*Spice Grater*.—July 9, 1867.—The spices are contained in separate cylinders with spring bottoms. A rotatable disk on an axial pin has an opening by which any one cylinder may be exposed to the grater, which is rotated by a crank attached thereto.

*Claim.*—The tubes *a*, more or less in number, arranged and combined substantially as shown and described, for the purposes specified, in combination with the tubes *a*, the method herein shown and described for feeding the spice to the grinding plate, the flanged plate *e*, the spring *k*, and the index *n*, for the purposes set forth.

Also, the grinding plate O, in combination with the tubes *a*, the case S, in combination with the spice mill, constructed substantially as described for the purpose set forth.

**66,620.**—DANIEL E. PARIS, Troy, N. Y.—*Cooking Stove*.—July 9, 1867.—The water tank in front of the fire box is heated by radiation, the rays passing downward toward the ash pit below the tanks; ventilators regulate the temperature. Screens over the ash boxes sift out the cinders.

*Claim.*—First, a reservoir or heater tank situated in front of a driving flue cooking stove or range, so placed and attached that it shall form the front wall or outer casing of the fire box or the ash way below the fire box, or both, for the purpose herein set forth, and in the manner set forth.

Second, the ash chamber in front of and below the fire box, covered by a water reservoir or tank, in combination with door openings into said chamber at the lower front of the reservoir, substantially as here shown and described.

Third, an opening through the front part of the stove top or through the hearth plate of the stove, in combination with the open-topped reservoir, as herein shown and described.

Fourth, a bail stone boiler, vessels, or kettles, so constructed that one end of said bail will operate on a shank or prong of the cover to said vessels, so as to move it off its place and then on again horizontally by the shifting of the bail from side to side.

**66,621.**—S. W. PATTERSON and S. DEWEY, Mainesburg, Pa.—*Horse Hay Fork*.—July 9, 1867.—The harpoon is attached to the box, which has bearings for the pulley by which it is elevated, and also for that over which runs the cord to the disengaging trigger.

*Claim.*—The metallic head or box H, constructed and applied to the lever B, as described, and affording a bearing for the pulleys A and R, as and for the purpose set forth.

**66,622.**—JOHN C. PEDRICK, Washington, D. C.—*Carbureting Air*.—July 9, 1867.—Air is forced into the carbureting chamber by a steam injector. Carburetted air from a vessel beneath the chamber is burnt beneath the steam generator.

*Claim.*—Feeding in or supplying air to carbureters or carbureting chambers by the means and substantially as herein recited.

**66,623.**—JOSEPH H. PELTON, Cleveland, Tenn.—*Mechanical Movement*.—January 9, 1867.—The hand and foot levers are connected to the double crank shaft to cause its rotation.

*Claim.*—The arrangement of hand and foot levers I I and J J, pitman *i i j j'*, and double crank shaft B, for the purpose set forth.

**66,624.**—NORWOOD PENROSE, Philadelphia, Pa.—*Self-bailing Surf and Life Boat*.—July 9, 1867.—At the waist of the ship are several valved openings leading from the midship and both scuppers to a central opening at the keel. The valves prevent water ascending but open for the discharge of water on deck.

*Claim.*—First, a self-righting and bailing surf and life boat provided with a heavy keel and elevated buoyant ends in the usual manner, the amidships trunk or well A, in combination with a deck or floor E, and any suitable automatic valve *a'* at its upper end, the said trunk or well A passing vertically downward through the keelson and the keel of the boat, substantially as described and set forth for the purpose specified.

Second, in a self-righting and bailing surf and life boat provided with a heavy keel and elevated buoyant ends in the usual manner, the oblique trunks B B', in combination with a deck or floor E, and any suitable automatic valves at their upper ends, the said oblique trunks extending from the starboard and larboard sides respectively of the floor or deck, and opening into a vertical trunk or well A at points just above the keelson of the boat, so as to discharge their water vertically through the keel of the boat, substantially as described and set forth.

Third, in combination with a self-righting and bailing surf boat, the air-containing elastic cases D, the same being constructed as described, and applied within the respective compartments and bulkheads of the boat, as and for the purpose specified.

**66,625.**—G. M. PETERS, Granville, Ohio.—*Harvester Rake*.—July 9, 1867.—Explained by the claims and illustration.

*Claim.*—First, a reciprocating and turning rake, operated from beneath through a slotted platform, and arranged to move in a path parallel to the finger bar during a part of its delivery stroke, and then to turn and sweep the grain from the platform in the arc of a circle, the center of which is at or near the outer corner of said platform, substantially as described.

Second, a grain platform, slotted as described, in combination with a reciprocating and turning rake, operating from underneath, and delivering the grain in rear of the inner or main frame end of said platform, substantially as described.

Third, the reciprocating turning rake, in combination with the lever J and slotted sliding lever L, operated as described.

Fourth, the reciprocating rod O', working underneath the rear edge of the platform in guides *o' o'*, in combination with connecting rods or links *o o*<sup>2</sup> and slotted lever L, as described.

Fifth, the rake lever L, provided with the spur and friction roller, as described, whereby a vertical reciprocation is imparted to said rake lever through the medium of ways or tracks M N O and latches *m*<sup>1</sup> *m*<sup>2</sup>, or their equivalents, for the purpose specified.

**66,626.**—ADRIAN RAIS, Waterbury, Conn., assignor to THE SCOVILLE MANUFACTURING COMPANY, same place.—*Machine for Making Butt Hinges*.—July 9, 1867.—The match leaf-blanks are automatically conveyed from the feed hoppers to the knuckle-bending dies, and from thence to the milling wheels. The leaves are then interlocked, and the pintle inserted automatically.

*Claim.*—First, the closing and opening wings I, in combination with the milling disks H, constructed and operating substantially as and for the purpose herein described.

Second, the guide caps *b*, in combination with the milling disks H, and the slides C<sup>3</sup>, constructed and operating substantially as and for the purposes herein described.



Third, the lever clamps *d* and inclined cross bar *e*, in combination with the slides *C*<sup>3</sup>, and the milling disks *H*, constructed and operating substantially as and for the purposes herein described.

Fourth, the elamp *P* and the guides *h*, in combination with the wings *I*, constructed and operating substantially as and for the purpose herein described.

Fifth, the slide *C*<sup>5</sup> and nail punch *m*, in combination with the wings *I*, and the guides *h*, constructed and operating substantially as herein described.

Sixth, the combination of the feeding boxes, bending dies, milling disks, closing and opening wings, joint clamp, knuckle guides, and nail punch, constructed as described.

**66,627.**—B. W. REMY, Brookville, Ind.—*Combined Seeder and Cultivator*.—July 9, 1867.—As the machine is drawn forward the points of the star wheels enter the ground, turn round, and are the means of turning the axles and their seeding wheels. The seeding apparatus accommodates itself to the vertical inequalities of the ground, and may be raised as required.

*Claim.*—The main frame, composed of the vertical arched iron bars *C D*, and the horizontal frame *F*, also made of iron bars, and the whole combined with the short axles *B B*, by which it is supported in the carrying wheels, substantially as and for the purpose described.

Also, in combination with the main frame composed of iron bars or straps and supported as described, the pivoted bars *H I*, to which a cultivator or seeding mechanism, substantially such as described, may be attached, as and for the purpose set forth.

**66,628.**—JESSE REYNOLDS, Philadelphia, Pa.—*Grate for Furnaces*.—July 9, 1867.—The grate bars are introduced one at a time, the rear end is entered into its opening in the rear bearer, the forward end lowered through an opening in the forward bearer and then slipped laterally to place. The action is repeated till the side is full, and a similar series are inserted on the other side.

*Claim.*—The bearer *C*, with its groove *e*, and openings *i i*, in combination with the recessed bearer *C*<sup>1</sup>, the whole being arranged with a fire place for the reception of the grate bars, substantially as described.

**66,629.**—J. F. C. RIDER and G. B. WIGGIN, South New Market, N. H.—*Screw Tap*.—July 9, 1867.—The handle connects the ring with the mandrel by a slot in the shank. By turning the handle in one direction the cutters are thrown out to tap the hole, and rotation in the other direction contracts them centrally, so as to enable the tool to be withdrawn without reversing the tap.

*Claim.*—The combination of the ring *F*, with cams *B B B B*, the mandrel *G*, with cams *D D D D*, and cutters *C C C C*, or its equivalent, substantially as shown and described, so that by turning ring *F*, by handle *E*, the cutters of the tap will be released from the thread in the hole, and thus allow the tool to be withdrawn as specified.

**66,630.**—JAMES RIGG, Iowa Falls, Iowa—*Coating Wrought or Cast Iron with a Harder Metal*.—July 9, 1867.—The iron or steel to be coated with cast iron is cleaned, heated to 700 or 800° Fah., treated with solution of 3 parts borax, 1 part sal ammoniac, plunged into molten cast iron, and then into water.

*Claim.*—Coating wrought or cast iron with a harder metal by first applying a suitable flux, and afterward dipping it while hot into harder metal in a molten state, as herein shown and described.

**66,631.**—EZRA RIPLEY, Troy, N. Y.—*Hinging Tea Kettle Covers*.—July 9, 1867.—Explained by the claim and illustration.

*Claim.*—An edgewise swinging cover, hinged or pivoted to a tea kettle at one side of the line of its spout, and furnished with a stop, so that the cover can be swung off in a direction at first rearward or away from the spout, and that the weight or gravity of the cover when closed keeps or tends to keep the cover from swinging partly off when the tea kettle is inclined forward and tilted sideways, substantially as herein set forth.

Also, a tea kettle having an edgewise swinging

cover, and a bail hinged to lugs in line or nearly so with the spout of the tea kettle, and so constructed that the cover can be swung off over the rear bail lug, substantially as herein set forth.

**66,632.**—HORACE T. ROBBINS, Boston, Mass.—*Umbrella*.—July 9, 1867.—Supplementary braces reach from a runner on the stem to a point on the ribs beyond the usual place of support. The said braces pass through the stretchers, which are forked for that purpose.

*Claim.*—First, providing umbrellas with auxiliary braces, as and for the purpose specified.

Second, the combination of the runners *b*, braces *a*, and ribs *D*, substantially as described.

Third, the arrangement of the stretchers *F*, having slots *h*, with the braces *a*, substantially as described.

**66,633.**—NATHANIEL ROBBINS, Jr., Rockport, Mass.—*Gudgeon for Booms*.—July 9, 1867.—The boom is connected by a universal joint to a circular frame firmly clamped to the mast.

*Claim.*—First, the use of the socket *D* and the pin-*le E* as a bearing for a boom and connection with the mast, substantially as described.

Second, the construction and arrangement of the boom joint or connection, substantially as described.

**66,634.**—NATHANIEL ROBBINS, Jr., Rockport, Mass.—*Windlass*.—July 9, 1867.—By means of the sectors and gear wheels acting upon the windlass, an increased power with slow motion or the converse may be attained, according as the interior gearing of the drum is thrown into engagement with one shaft or the other.

*Claim.*—First, the combination of the drum *f* with the section *e e*, the whole arranged with falls and brakes in connection with a windlass, substantially as described.

Second, the use of the gear wheels *i j k* and *e*, in combination with the arms *h* and *m* and the drum *f*, substantially as and for the purposes set forth.

**66,635.**—WILLIAM ROBINSON, Funkville, Pa.—*Lamp Burner*.—July 9, 1867.—The cone is movable vertically to adjust it relatively to the top of the wick tube. The skeleton frame sets within the easing, and has inclined strips up which travel the projecting pins of the cone.

*Claim.*—First, the construction of inclined planes, so arranged with respect to the cone and shell of a lamp burner as to raise and lower the cone for adjustment vertically.

Second, the mode of adjusting the cone by means of inclined planes *e e*, operating substantially as herein described.

**66,636.**—CHRISTIAN ROOP, Middletown, Pa.—*Ash Tub or Leach*.—July 9, 1867.—The leach tub is supported on a double *X* frame, and has a conduit trough below it to conduct the lye.

*Claim.*—An ash tub or box constructed and arranged substantially as herein specified.

**66,637.**—J. A. ROYCE, Lee, Mass.—*Advertising Apparatus*.—July 9, 1867.—In a case in the ceiling of the car travels an endless band with cards, which are successively brought into view as they are suspended from the band.

*Claim.*—First, the endless band *E*, furnished with suspended cards or tags *F*, in combination with the openings *e* of the ceiling *d*, substantially as and for the purpose specified.

Second, the wheel *C*, constructed with radial floats and arranged at or upon the roof of the car, in combination with the endless band *E*, furnished with cards or tags, substantially as herein set forth for the purpose specified.

Third, the case *B*, open at both ends, arranged upon the roof of the car and in relation with the wheel *C*, substantially as herein set forth for the purpose specified.

Fourth, the wheel *C*, pulleys *b*, and belts *c*, arranged in relation with each other and with the rollers *D*, endless band *E*, openings *e*, and cards or tags *F*, substantially as herein set forth for the purpose specified.

**66,638.**—FISK RUSSELL, Cambridge, Mass.—



*Safety Pocket.*—July 9, 1867.—The mouth of the pocket has a peculiar lock, having a hasp capable of being pressed into the lock to secure them together, and of sliding within the lock to enable one part of the pocket to yield with reference to the other.

*Claim.*—First, a safety or armored pocket, the mouth of which is secured by a hasp which is sprung into a lock, substantially as described.

Second, so arranging the hasp that it may slide in lateral directions in the lock to enable the respective parts of the pocket to yield freely, substantially as set forth.

Third, in combination with the lock and hasp, constructed to operate as described, a spring bolt for locking the hasp in position, said bolt being thrown forward by tripping a catch and thrown back by a key, substantially as set forth.

Fourth, the arrangement together of a safety pocket, locking as described, and an ordinary pocket.

**66,639.**—HENRY RUSSELL, New Richmond, Wis.—*Mop Wringer.*—July 9, 1867.—The lever is depressed, and brings the follower down upon the mop to express the water.

*Claim.*—First, a machine for wringing water from mops, consisting of a press box, which is adapted for receiving a mop when applied to its handles, a follower for pressing the mop, and a movable lever for acting upon the follower, all being constructed and operated substantially as described.

Second, the construction of the frame and its press box for the purpose of receiving the mop and pressing devices, substantially as described.

**66,640.**—JOHN SCHIFFER, New York, N. Y., assignor to himself, MEYER, and MUELLER, same place. *Machine for Dressing Hides and Skins.*—July 9, 1867.—For unhairing and unfleshing hides. The hide is clamped on a bed, which moves beneath a roller armed with spiral blades. The bed is raised by levers actuated by the attendant with the required force, and a stream of water on the skin washes off the refuse matter.

*Claim.*—First, the bed  $a'$ , fitted with the clamps  $r$   $r'$  in the manner specified, in combination with the rotary scraper  $c$ , formed with diverging blades, as and for the purposes set forth.

Second, the bed  $o$ , having an elastic surface upon which the hide or skin is to be laid, in combination with the rotary scraper  $c$ , substantially as and for the purposes set forth.

Third, the levers  $s$  and  $n$ , and frame  $n$ , in combination with the bed  $o$ , as and for the purposes set forth.

Fourth, the bolts  $p$   $p$  and pinions  $3$   $3$ , in combination with the chains  $x$   $x$  and frame  $n$ , for the purposes and as set forth.

**66,641.**—JOHN C. SHACKELTON, Lawrence, Mass.—*Lathe Tool.*—July 9, 1867.—The tool is adjustable vertically in the holder by the set screws, whose points engage one of the series of depressions in the shank of the tool.

*Claim.*—The combination of the tool holder  $A$   $B$ , tool  $C$ , and set screws  $e$ , when constructed and arranged as herein set forth.

**66,642.**—WILLIAM SHARTS, Hudson, N. Y.—*Machine for Making Horseshoe Nails.*—July 9, 1867.—Two rods are automatically fed to opposite sides of a sliding anvil, and are operated on simultaneously by the hammers. The clipping of the nail points and the removal of the nails from the rods take place simultaneously.

*Claim.*—First, the anvil  $G$ , constructed as described, in combination with the hammers  $C$  and  $D$ , substantially as and for the purpose specified.

Second, imparting to the anvil  $G$  a sliding movement with reference to the hammers and the nail rods as described, during the foregoing operation, substantially as and for the purpose specified.

Third, the gripping jaws arranged upon the sliding plate  $I$  and in relation with the sliding anvil  $G$  and the jaws  $d'$   $e'$  of the feeding tongs, substantially as and for the purpose herein set forth.

Fourth, the cam wheel  $A$ , with several series of cams  $a$   $b$ , plain circumferential portion  $c$ , and semi-circular ribs  $d$ , in combination with the three hammers  $C$   $D$ , all constructed and arranged substantially as and for the purpose specified.

Fifth, the cutters  $M$   $N$   $f^*$ , in combination with the system of levers and the wheel  $A$ , all constructed and arranged substantially as and for the purpose specified.

Sixth, the sliding bar  $H$ , provided with the spur  $h'$ , and the levers  $s$   $u$ , arranged in combination with each other and with the slide  $H$ , and the radial spur  $a^2$  of the wheel  $A$ , for the purpose of operating the jaws  $d'$   $e'$  of the feeding jaws or mechanism, substantially as and for the purpose specified.

Seventh, the combination of the spring catch  $e^*$ , rod  $c^*$ , sliding gripping jaw  $s'$ , and the vertically moving slide  $K$ , substantially as and for the purpose specified.

Eighth, the sliding rod  $e^*$ , spring catch  $a^*$ , stand  $b^*$ , arranged in relation with each other and with the sliding plate  $I$ , sliding gripping pan  $s'$ , and spring catch  $e^*$ , substantially as and for the purpose specified.

**66,643.**—OTIS SHEPARD, Alton, Ill.—*Boot-jack, Wrench, and Nail-pull.*—July 9, 1867.—Explained by the claim and illustration.

*Claim.*—A boot-jack provided with the tack extractor  $c$ , wrenches  $D$  upon its sides  $E$  and  $F$ , saw-sets  $H$ , and wagon wrench  $I$ , in the support  $H'$ , as herein shown and described.

**66,644.**—ANDREW J. SIMPSON, Philadelphia, Pa., and JOHN J. JANEZECK, Washington, D. C.—*Concussion Fuse for Explosive Shells.*—July 9, 1867.—The case contains a fulminate and powder chamber; a wire passes through the former and is connected to the plunger, which is projected by concussion of the shell, draws out the wire, and discharges the fulminate.

*Claim.*—In combination with the tapering closed case  $A$ , the plunger  $D$ , fitting snugly therein, the fulminate chamber  $B$ , fulminate tube  $C$ , friction wire  $b$ , washer  $e$ , pin  $d$ , and powder chamber  $e$ , all arranged therein and constructed as herein described and for the purpose specified.

**66,645.**—J. HENRY SMITH, Pittsburg, Pa.—*Petroleum Filter.*—July 9, 1867.—From the tank, by a sprinkler, to a filter, and thence by troughs to a second sprinkler and filter, the crude oil passes to be subjected to the action of the air and be deprived of extraneous matter.

*Claim.*—The perforated distributing spout  $a$ , filter  $B$ , troughs  $C$ , distributing spout  $c$ , and filtering platform  $D$ , all arranged in relation with each other and with the tanks  $A$   $E$  in such manner that the oil may be filtered and evaporated by passing from a fine shower to sluggish streams, as and for the purpose specified.

**66,646.**—WM. C. SMITH, Yantic, Conn.—*Churn.*—July 9, 1867.—Movable square plugs in the ends of the gear shafts enter sockets in the ends of the beater-shaft to connect them, and are withdrawn by axial rods, when the beaters are to be removed for the substitution of the butter-worker.

*Claim.*—The connecting of the shafts  $C$   $C$  of the gears  $D$   $D$  to the shafts  $a$  of the beaters by means of the pins  $E$  in said shaft, arranged with the springs  $f$ , the sockets at the ends of the beater-shafts, and the squares or dovetails  $e$  on the inner ends of the gear shafts  $C$ , to fit into the sockets on the shafts  $a$ , substantially as and for the purpose specified.

Also, the butter-worker  $H$ , constructed as described, in combination with the churn  $A$  and rigid or flexible dead-eye  $G$ , as herein set forth and for the purpose specified.

**66,647.**—ALBERT G. STARKWEATHER, Burlington, Vt.—*Mop Wringer.*—July 9, 1867.—One roller has its bearings in a ring which fits within the pail, and the frame of the other roller is pivoted to the ring, so as to enable them to be brought together to act as a wringer upon the mop.

*Claim.*—The roller frames  $A$  and  $D$ , constructed and combined with each other and secured to the pail, substantially in the manner herein shown and described and for the purpose set forth.

**66,648.**—JOSEPH STEGER, New York, N. Y.—*Car Starting Apparatus.*—July 9, 1867.—By depressing the treadle the pawl is thrown into engagement with the ratchet on the axle, and the latter is moved as



power is applied on the draw-bar and communicated by the lever to the pawl.

*Claim.*—First, the gearing device consisting of the spring P S, provided with a foot button, and the ratchet R suspended from said spring, substantially in the manner and for the purpose specified.

Second, the car starting device consisting of the traction bar T, lever L, pivoted ratchet R, ratchet wheel W, spiral spring S, and spring P S, constructed and arranged substantially as herein specified.

**66,649.**—WM. W. TAYLOR, Newark, N. J.—*Carpet Stretcher.*—July 9, 1867.—The carpet edge is engaged between the jaws, which are forced together by a set screw; the tail block is placed against an abutment; the former is then extended by depression of the toggle levers.

*Claim.*—First, the combination of the floor plate A, toggle levers B C, and tail block G with each other, substantially as herein shown and described and for the purpose set forth.

Second, attaching the tail block G to the lever C by means of the adjusting screw E and nut F, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the movable lever jaws I with the arms or stationary jaws *a'* of the floor plate A, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the thumb screws J with the movable lever jaws I and floor plate A, substantially as herein shown and described and for the purpose set forth.

**66,650.**—JOHN A. THOMPSON, Auburn, N. Y.—*Composition of Matter for Disinfecting and Preparing Fertilizers.*—July 9, 1867.—Charcoal is charged with disinfecting gases, such as chlorine or sulphurous acid, and is mixed with gypsum or lime.

*Claim.*—First, the within-described composition of matter, consisting of charcoal charged with sulphurous acid, or other disinfecting gas, and gypsum, combined and prepared substantially as described and for the purposes set forth.

Second, the combination of the above-described compound with animal or vegetable substances, to produce a fertilizing material, whether with or without the addition of common salt, wood ashes, bone dust, or other fertilizing ingredients.

**66,651.**—JOHN TODD, Bellefonte, Pa.—*Water-wheel.*—July 9, 1867.—The circumferential band around the exterior of the curb has gates which project into the openings of the chutes, and the rotation of the band by pinion and rack adjusts the area of the openings simultaneously.

*Claim.*—In combination with a water-wheel and a curb arranged concentrically around the outside of it and furnished with chutes leading to the wheel, as represented, a band at G, placed around the outer circumference of the curb, furnished with gates I, operated to change the areas of the chutes or water ways, as described and represented.

**66,652.**—SYLVESTER L. TRACY, Cleveland, Ohio, assignor to himself and HENRY MERRITT, same place.—*Tool.*—July 9, 1867.—The device includes a hand-vise, adjustable wrench, and nail claw.

*Claim.*—The improved implement herein described, as a new article of manufacture.

**66,653.**—GEORGE TRAYSER, Indianapolis, Ind.—*Piano.*—July 9, 1867.—The framed latticed bottom resists contraction and expansion from change of temperature. The sounding-board is arched at its broad end and is sustained by a stay-bar traversing its central cross-section and strengthened by a metallic brace. The metallic frame is braced by transverse ribs to prevent warping from the tension of the strings, and has recesses into which bridges are inserted to receive the bearings of the strings.

*Claim.*—First, the lattice frame-work *c c c* and *d d d*, composing the reverberating chambers F F F, in combination with the top casing D and bottom casing E, substantially as set forth.

Second, the manner of producing a convex sounding-board by means of the curved surface of the ribs *n n n*, as and for the purpose described.

Third, the bed plate B, when constructed with recesses to receive wooden bridges *a'* and with a central cross-brace B', said parts being arranged in relation to each other and the other parts of the bed plate, substantially as set forth.

Fourth, the angular brace G, curved brace G', combined with each other and attached to a convex sounding-board, constructed and applied as and for the purposes set forth.

**66,654.**—STEPHEN D. TUCKER, New York, N. Y.—*Printing Machine.*—July 9, 1867.—The roller frames are connected to treadles by which they may be raised at the lower end to free the rollers from the ink and type surfaces. Set screws operate on the treadle levers to keep them in the depressed position when desired.

*Claim.*—The lever N or Y, or both, and adjusting screw O or Z, or both, or their respective equivalents, when arranged to regulate the upward pressure of the rollers E or Q, or both, against the distributing surfaces, substantially as described.

Also, the lever N or Y, or both, when provided with foot-plates, or their equivalents, as and for the purpose described.

**66,655.**—BENJAMIN F. TURNER, Bridgeton, N. J.—*Ladder.*—July 9, 1867.—The ladders are hinged together with cross rods, and slots permit a longitudinal motion, so that the slotted feet of each upper section may pass and then slip upon a round of the section below; or conversely, be removed therefrom for doubling up.

*Claim.*—The arrangement of three separate ladders, or lengths, connected together with cross rods *e*, working in slots *d d*, in the ends, and recesses *k k*, at the extremities, fitted on the first round *b*, to be employed in the several applications and positions, separately or combined, in the manner herein described.

**66,656.**—WILLIAM WESTLAKE, Brooklyn, N. Y.—*Manufacturing Faucets.*—July 9, 1867.—The plug socket of the cast iron faucet has a lining of sheet brass; the plug is also covered by a sleeve of brass.

*Claim.*—The method herein described of making faucets or cocks partly of cast iron and partly of sheet brass, substantially as specified.

**66,657.**—WILLIAM WESTLAKE, Brooklyn, N. Y.—*Manufacturing Faucets.*—July 9, 1867.—The corresponding pieces of sheet metal for the halves of the faucet are swaged into form and soldered together. The plug is formed in a similar manner, is secured to the cast knob and its lower end expanded by a reamer to retain it in position.

*Claim.*—First, the method of making faucets or cocks partly of sheet metal and partly of cast metal, substantially as described.

Second, faucets or cocks constructed in the method herein described, as a new article of manufacture.

**66,658.**—NATHAN FOSTER WESTON, Boston, Mass.—*Uniting the ends of Lead Pipes.*—July 9, 1867.—The ends of the pipe are expanded over the ends of the doubly conical annulus, which has a circumferential rib at its midlength, and are held thereto by conical collars drawn together by a nut.

*Claim.*—The device for uniting the ends of lead pipes and dispensing with the use of solder, consisting of the hollow expanding plug A, sleeves *c c'*, and nut *e*, combined and operating together, substantially as before described.

**66,659.**—NATHAN FOSTER WESTON, Boston, Mass.—*Coupling Faucets to Pipes.*—July 9, 1867.—The pipe is clamped between two plates, one of which has a socket projecting at right angles to receive a tubular conical piece over which the end of the leaden pipe is forced and held by a sleeve and coupling nut. A gasket packing is applied between the plate and pipe.

*Claim.*—The mode substantially as above described of applying a faucet or T to a pipe by which the use of soldering is dispensed with and other advantages gained essentially as explained.

**66,660.**—CHARLES B. WHITE, Candor, N. Y.—*Washing Machine.*—July 9, 1867.—Pressure on the



treadle brings down the rubber upon the roller bed, which is journaled at one end and supported at the other end by springs.

*Claim.*—First, the series of rollers *c*, mounted in the frame *II*, pivoted at one end and having its opposite end supported by the springs *p*, substantially as described.

Second, the rubber block *m*, mounted in a suitable frame and suspended on the rods *b*, attached to the spring *a* above, and connected to the treadle or lever *T* below, substantially as shown and described.

**66,661.**—THOMAS WILLIAMS, Boston, Mass.—*Dredging Box.*—July 9, 1867.—The asperities of the conical perforated plate are for disintegrating lumps that may agglomerate within the vessel.

*Claim.*—In combination with the body and perforated cover of a dredge box a perforated inwardly projecting hollow conical or pointed body *c*, arranged to operate substantially as described.

Also, in combination with the body and perforated cover of a dredge box a perforated hollow body interposed between said cover and the contents of said body, when provided with asperities, substantially as and for the purpose specified.

**66,662.**—JOHN WILSON, Anderson Court House, S. C.—*Burglar Alarm Gun.*—July 9, 1867.—The barrel is swiveled on its vertical support and its holder has a circular series of stops to which wires are connected from different parts of the room. Interference with either of the wires releases the gun, which swings in the direction of the wire and is discharged as it strikes the stop.

*Claim.*—First, the arms *G G*, when pivoted as shown and when provided with pins *l* and *m m*, in combination with the springs *H H*, all made and operating substantially as herein shown and described.

Second, the gun *E*, when secured to a shaft *B*, in combination with the disk *b*, and spring catch *c*, substantially as set forth.

Third, the plate *F*, when secured loose on the shaft *B*, and when notched as shown and provided with a pin *k*, in combination with the pins *l l*, on the arms *G*, all made and operating substantially as set forth.

Fourth, the trigger *e'*, when provided with a downward projection *p*, in combination with the pins *m*, as set forth.

Fifth, the arms *G*, when connected with the wires *o*, so that by pulling on or touching the wire the arms *G* will be moved and will serve to revolve the gun and direct it toward the disturbed wire and discharge the same, all as set forth.

Sixth, an alarm gun made and operating substantially as herein shown and described.

**66,663.**—EBENEZER YOUNG, Camden Centre, Mich.—*Gate.*—July 9, 1867.—The bars of the gate are pivoted to their uprights, excepting the one on which the gate slides, which is pivoted to the heel post. The outer end of the gate is raised and the lever vibrated until the catch engages a notch in the bar below to hold it in position.

*Claim.*—The combination of the upright bar *D*, pivoted bar *E*, lever *G*, and pivoted bar *F*, with each other and with the gate *C*, substantially as herein shown and described and for the purpose set forth.

**66,664.**—JOSIAH KEENE, Washington, D. C.—*Plastering Machine.*—July 9, 1867.—The vertically extensible slide frame is clamped to floor and ceiling. The mortar box contains a follower, which is operated by the ascent of the box and forces the mortar against the wall. The mortar is further pressed by the trowel, which follows the mortar box until it reaches the ceiling and then has independent motion to finish to the top.

*Claim.*—The combination of a mortar box *C* with a stand or frame having adjustable and extension guide ways or standards, substantially as and for the purpose herein specified.

Also, forcing the follower forward by the movement of the mortar box itself by means of a stationary rack or racks *D K*, and a travelling pinion or pinions, substantially as and for the purposes herein set forth.

Also, the extensible way standards *B C* and stationary racks *D E*, connected and retained in their

extended positions, substantially as and for the purposes herein specified.

Also, the combination of the adjustable points or dogs for holding the stand in position and the casters or wheels on which it is moved, substantially as specified.

Also, the combination and arrangement of the windlass or winding shaft *F* and cord *f* for the purpose of raising the mortar box, substantially as herein specified.

Also, the trowel *I*, adjustable transversely to the machine, substantially as herein set forth.

Also, the arrangement of the trowel *I* so as to have a separate movement upward in front of the mortar box in combination with the springs *T T* and catch *o*, constructed and operated as described and for the purpose set forth.

Also, the stand or frame *V*, in combination with the plastering machine set forth, constructed, and operating as described and for the purpose herein specified.

**66,665.**—G. A. LLOYD and C. A. STEWART, San Francisco, Cal.—*Anchor.*—July 9, 1867.—The fluke arms are presented at different angles and their play is regulated in either direction by stops.

*Claim.*—The lugs *a a* on the flukes, in combination with the stops or projections *d d* on the shank, for the purposes set forth.

Also, making the flukes to stand at different angles, so that one will catch first when the anchor is one side up and the opposite one when the anchor is the other side up, substantially as described.

**66,666.**—JOHN RUTTER, Westchester, Pa.—*Preserving, Storing, and Transporting Fruits, Vegetables, and other Perishable Articles.*—July 9, 1867.—Explained by the claim.

*Claim.*—The herein described process of preserving and transporting perishable articles, said process consisting in placing inside the box, crate, barrel or ear or other closed vessel in which the articles are placed for preservation and transportation, a watertight metallic vessel or its equivalent filled with ice or ice and salt or their equivalent, substantially as described.

**66,667.**—N. W. ABBOT, Centralia, assignor to H. W. PERSING, same place.—*Inhaling Fluid for the Cure of Consumption and other Diseases.*—July 16, 1867.—Compound. Alcohol, deodorized, 3 ounces; sulphuric ether 2 ounces; chloroform 2 ounces; bromine 50 drops; hydrocyanic acid 10 drops. The two latter are the special ingredients, the others are for bulk and convenience of administration.

*Claim.*—The combination and use of the ingredients herein named, as and for the purpose set forth.

**66,668.**—C. A. ACKERSON, Bath, N. Y., and W. D. HARRAH, Davenport, Iowa, assignors to J. C. DELANY, Philadelphia, Pa.—*Folding Gate.*—July 16, 1867.—Improvement on W. D. Harrah's patent, September 20, 1864. The pivoted folding gate descending on the spring catch in the latch post is engaged thereby. A cord connecting with a pulley in a foot post behind holds the gate in position when opened.

*Claim.*—First, the construction and arrangement of the several parts of the within-described folding gate, all operating together as herein set forth.

Second, the combination of the slide *f* and latch *e* with a cord *g*, arranged substantially as and for the purposes described.

Third, the slide *f*, in combination with the spring catch *e*, the said slide serving as a means whereby to force the spring *e* out of contact with the gate, substantially as described.

**66,669.**—BENJAMIN ARNOLD, East Greenwich, R. I.—*Net for Fishing, &c.*—July 16, 1867; antedated January 17, 1867.—The twine of varying sizes are used alternately, each knot being formed half of each.

*Claim.*—First, the use of the full-sized twine in connection with the strand or smaller twine, in making netting, substantially as herein set forth.

Second, as a new article of manufacture, nets or netting made as herein described.

**66,670.**—HENRY BEVIS, Cincinnati, Ohio, assignor to himself, THOMAS H. FOULDS and W. D.



DALTON, same place.—*Steam Generator*.—July 16, 1867.—The current of water passes up the inner series of tubes, and has exit above the water surface, giving off its steam into the steam space. The descending water follows the outer tubes.

*Claim*.—The steam chamber C and water chamber B, connected by one or more annular series of ascending tubes or ducts D, immediately surrounding the fire, and having downwardly-discharging terminations G above the crown sheet, and by one or more outer annular series of descending ducts E, having their inlets flush with the top of the crown sheet, for the purpose set forth.

**66,671.**—JOHN P. BIRCH, Philadelphia, Pa., assignor to himself and GEORGE W. PATERSON, Newburyport, Mass.—*Rotary Pump*.—July 16, 1867.—The pistons are carried on disks upon the spindle, and their arms pass through apertures in the drum, having packing in oscillating pieces therein. The spindle is concentric with the cylinder and the drum eccentric thereto.

*Claim*.—The combination with the eccentric piston case and central pin or spindle, mounted in opposite ends of the pump case, of the pistons or buckets and their grooved and tongued-supporting disks, mounted on said spindle, and within the piston case, substantially as shown and described.

**66,672.**—PARRITT BLAISDELL, Worcester, Mass.—*Upright Drill*.—July 16, 1867.—As the drill is fed down to its work the lower bearing moves down with it. The upper end of the spindle is splined in the pinion of rotation in which it slips. It has collars above and below the lower bearing, which is adjusted up and down for feed. The feed device is on a frame vertically adjustable on the standard of the frame.

*Claim*.—The combination with the sliding head piece G and bearing F of the upright spindle E, provided with the collars *d m* and nut *o*, substantially as set forth.

Second, the combination with the adjustable frame H and spindle E of the sliding head piece G, screw shaft *e*, collars *m d* and nut *o*, constructed and arranged substantially as and for the purposes set forth.

Third, the combination of the sliding head piece G and bearing F, with the adjustable frame H and spindle E, arranged as and for the purposes set forth.

**66,673.**—THOMAS H. BURRIDGE, St. Louis, Mo., assignor to himself and G. C. FALIAN, same place.—*Sash Fastener*.—July 16, 1867.—A strip is let into a groove in the edge of the sash and thrust out from the casing by india-rubber springs, which press with sufficient force to hold the sash at the height to which it is adjusted.

*Claim*.—The combination of trapezoidal tongue or series of tongues *d* with the spring *d'* and the strip D, the sash or blind and the window stile, when acting substantially as and for the purpose set forth.

**66,674.**—WILLIAM B. BURWELL, Chicago, Ill.—*Refrigerator, Cooler, and Filter*.—July 16, 1867.—The space between the inner metallic case and outer wooden one is filled with pulverized charcoal, and a wooden rack supports the ice. Air passages connect the ice chamber to the cooling chamber below. A tube carries the water from the ice chamber to the filter. The chambers are ventilated by pipes from the outside.

*Claim*.—First, one or more ventilators O for ventilating the filling of a refrigerator without communicating with the interior, substantially as and for the purposes specified.

Second, in combination with the ventilators O, the arrangement of the ice box K in one compartment, and the dripping pan F, filter E and reservoir G, provided with a draw cock H in the other compartment, substantially as specified.

**66,675.**—RICHARD H. CHINN, Washington, D. C.—*Nutmeg Grater*.—July 16, 1867.—The nutmeg is within the sliding box, and held to the grate by a spiral spring.

*Claim*.—The box A having a foraminous bottom B, and below it a conducting tube C, in combination with the nutmeg holder E, fitted to slide within the box A, handle E' and sliding piston K L, when ar-

ranged to operate in the manner and for the purpose specified.

**66,676.**—JOHN C. CLAPP, Homer, N. Y.—*Apparatus for Manufacture of Gas*.—July 16, 1867.—The liquid to be distilled flows through the upper recurved pipe, and discharges centrally into the gas pipe. The gas pipe is curved down, and discharges into the reservoir containing purifying liquid in the base of the stove. The whole device is raised when not used.

*Claim*.—The employment of a retort within a common stove for the distillation of gas, substantially as set forth.

Also, the special combination and arrangement of the retort B, pipes D E and F and sliding joint I, with the stove A, whereby the retort may be elevated to the top of the stove when not required for use, substantially in the manner and for the purpose specified.

Also, the arrangement of the purifying vessels H under the stove, in combination with the retort B, and connecting pipes, substantially as and for the purpose described.

**66,677.**—A. H. CLARK, Fond du Lac, Wis.—*Car Coupling*.—July 16, 1867.—The entering link turns up the pivoted rest of the coupling pin, and allows the latter to fall. The rest when turned up comes beneath the weight, and lies on the inner end of the link to preserve it horizontally when uncoupled at the other end.

*Claim*.—The combination of the sliding block *a*, the hinge flap *b* and the coupling pin *d* with a draw head on a railroad car, constructed and operating substantially as and for the purposes herein described.

**66,678.**—JOHN J. and THOMAS CLARK, Elgin, Ill.—*Machine for Tenoning Blind Slat*s.—July 16, 1867.—The two series of saws are used, four in each series. Two saws cut the slat to a length; two others cut the shoulders at opposite ends, and the remaining four form the tenon by turning the slat while in contact with the saws. The devices described refer to means for holding and rotating the slat, and for removing it from the machine.

*Claim*.—Wheels W and W'', when used in combination with arch piece P, constructed and operating substantially as and for the purpose described.

Second, springs H H'', when used for holding the slat in slot *d*, substantially as described.

Third, the combination of slide R and adjustable arms *x x''*, for the purpose substantially as set forth.

**66,679.**—JOHN P. HUNTER, Williamsport, Ind.—*Horse Rake*.—July 16, 1867.—The rake is intended to gather hay and convey it to the stack. It is pivoted to the sled, and its rearwardly-projecting frame rests upon a standard attached to a transverse spring bar.

*Claim*.—In combination with the rake head A and sled E, the handle F, standard G, and elastic spring-board H, substantially as and for the purpose set forth.

**66,680.**—EDWIN COX, Monroe, Wis.—*Beehive*.—July 16, 1867.—The inner non-conducting casing of paper absorbs the dampness; the interior has one broad box and two spare honey boxes, the upper edges of whose beveled surfaces afford bearing for the bars of the comb frames; gutters collect the condensed moisture and carry it out of the hive.

*Claim*.—First, a beehive having its sides or panels composed of one or more layers of paper, with outer protecting panels of wood, whereby the dampness within the hive is absorbed, substantially as herein set forth for the purpose specified.

Second, the inclined strips or plates *l* in the bottom of the spare honey box F', in combination with the troughs or gutters *m*, in the upper parts of the comb frames G, substantially as and for the purpose set forth.

Third, the entrance boxes H I, provided respectively with the moth box *p*, tube *t*, and steppers *u*, constructed and arranged substantially as described.

**66,681.**—JOHN CRAM, Chicago, Ill., assignor to himself and JAMES B. THOMAS, same place.—*Churn*.—July 16, 1867.—The suspended oscillating churn



has springs below, which, striking against elastic stops secured to the frame, suddenly reverse its motion, giving an incessantly repeated reactionary movement to the cream.

*Claim.*—First, the arrangement of springs S S, or their equivalents, in combination with an oscillating churn box A, substantially in the manner and for the purposes specified.

Second, an oscillating churn box A, provided with the springs G G, or their equivalents, in combination with the stops, elastic or inelastic, substantially in the manner herein described.

Third, the arrangement of the cream cutters M, in combination with an oscillating churn, when provided with springs G G, or elastic stops S S, so as to operate in the manner herein specified.

Fourth, in combination with an oscillating churn, when provided with springs G G or elastic stops S S, as specified, the arrangement of a butter gatherer or worker L, or its equivalent, in the manner and for the purposes described.

Fifth, the combination and arrangement of the oscillating churn A with the cream cutters M and the butter gatherer L, substantially as and for the purposes herein specified.

**66,682.**—GEORGE CROMPTON, Worcester, Mass.—*Loom.*—July 16, 1867.—To give a corresponding movement to the eveners, each is hung upon an adjustable fulcrum in vertical line with the lifter or depresser with which it is connected, so as to exert an even force upon each of the heddles. The journal is mounted at the general end of the cloth roll in a movable bearing, with means for locking it in or out of gear with the pinion, according as the machine is in operation, or the cloth is to be run from the roll.

*Claim.*—In combination with the lifter and depresser levers, hung upon fulcrum in line with the cloth-making point, as described, the eveners levers, connected to and actuated by the lifter and depresser levers, when the eveners are hung upon fulcrum, in line with the fulcrum of the respective lifter or depresser, to which each is connected, substantially as set forth.

Also, in combination with the mechanism of a loom, a cloth roll having provision for locking it, either in connection or out of connection, with the mechanism through which it is driven, substantially as set forth.

**66,683.**—JEREMIAH DARLING, Cincinnati, Ohio.—*Steam Generator.*—July 16, 1867.—The boiler is supported on tubular columns exposed to the fire and containing water. Water and steam pipes connect the columns to each other and the boiler.

*Claim.*—First, the steam and water columns G, when constructed and arranged as and for the purposes set forth.

Second, the pipes J, when arranged with reference to the columns G, as herein described, and for the purposes set forth.

Third, the coil or in-line pipes K, when arranged and combined with the posts G and dome C, as herein described and for the purposes set forth.

**66,684.**—JAY DENSMORE, Holley, N. Y., assignor to L. A. DENSMORE and JUSTUS DAY, same place.—*Reciprocating Harrow.*—July 16, 1867.—The harrow is centrally pivoted and its sides are connected to cranks of the axle, causing reciprocation of the sides.

*Claim.*—A reciprocating harrow operated by cranks, or their equivalents.

Also, the carriage A behind the reciprocating harrow, as described.

Also, the driver's seat B, in combination with the carriage A, as described.

Also, the wrist pin n, the draft pole D, the sleeves i and h, the joint o, or their equivalents, the brace g, the chains c c c, or their equivalents, the guards s s s, all in combination with a reciprocating harrow, as and for the purposes set forth and described.

**66,685.**—JOSHUA W. DOUGHERTY and F. W. GERECHE, Newburgh, N. Y.—*Ice Cream Freezer.*—July 16, 1867.—The cylindrical cream vessel is supported upon upper and lower centers and revolved in an oppositely revolving chamber whose freezing contents are stirred by the revolving paddles.

*Claim.*—The cylindrical center freezer C, with the manhole O, upper center step R', center pin d, on the

bottom, in combination with the beater arms U<sup>1</sup> U<sup>2</sup>, and the outer cream vessels B B, by the square step M, substantially as and for the purpose specified.

**66,686.**—CHARLES DRAEGER, Ladoga, Ind.—*Washing Machine.*—July 16, 1867.—The weighted rollers work in elastic rubber bearings in the oscillating frame, in combination with the semi-cylindrical washboard.

*Claim.*—First, the employment of the weighted rollers F, hung in slotted bearings in the oscillating frame G, and arranged to operate substantially in the manner set forth.

Second, the semi-circular washboard, in combination with the weighted rollers and oscillating frame, arranged and operating substantially as described.

**66,687.**—NOAH DREW, Howell, Mich.—*Churn.*—July 16, 1867.—The radial arms of the upper dasher are over the intervals between the lower dasher arms. The lid is held on by hooks connected to the handles. The lever is hooked to the pivot on which it oscillates.

*Claim.*—First, the employment of two dashers B C having chamfered and perforated wings e, constructed and arranged relatively with each other on one shaft, substantially in the manner herein described.

Second, the employment of revolving shield hooks H, in combination with loop bearings m, and recessed handles E, substantially as and for the purpose herein specified.

Third, hanging the lever L by the use of the slotted straps M, in combination with a fast pivot i projecting from each side of the arm D, substantially as and for the uses set forth.

**66,688.**—WM. P. DUNLAP, Maquoketa, Iowa.—*Equalizing the Draft of Horse Powers.*—July 16, 1867.—At the end of each lever is a pivoted segment to which the draft is attached. Excessive strain on a given segment draws upon the link connecting to the central ring and shortens the leverage of the animal pulling.

*Claim.*—The arrangement and combination of the segment C, having the radius D, with rods J, ring I, and arms A, substantially as and for the purpose set forth.

**66,689.**—CHARLES A. DURGIN, New York, N. Y.—*Nutmeg Grater.*—July 16, 1867.—A corrugated plate, having its recesses roughened, is attached to a plain plate.

*Claim.*—As a new article of manufacture, a grooved or concave grater, substantially as described and specified.

**66,690.**—A. W. ELMER, Springfield, Mass., assignor to himself and CHRISTIAN ENSMINGER, same place.—*Handsaw.*—July 16, 1867.—The saw is strained by turning the nut on the end of the handle. The nut is threaded to a bolt which passes through the handle, and to which the end of the saw is attached.

*Claim.*—The combination of the nut C in the end and forming a part of the handle D, with the slit socket A, the round hole to receive the shank B and the shank B, with the end split to receive and hold the saw, substantially as set forth and described.

**66,691.**—CHARLES A. ELTON, Hillsborough, Ohio.—*Plow.*—July 16, 1867.—The beam is connected by a bolt to the standard and by the slotted angular holder to the handle. By operating the regulating bolt the depth and width of the furrow is regulated.

*Claim.*—Connecting the rear end of the beam A to the handle B by means of the slotted and angular-shaped holder d, and the belts c and e, as described, when the slots in said holder are of such a size and shape that by operating the bolt e, the forward end of said plow beam can be varied and secured in any desired lateral position, and by operating both of said bolts c and e the forward end of said plow beam can be varied and secured in any desired vertical position, substantially as herein set forth.

**66,692.**—JAMES E. EMERSON, Trenton, N. J.—*Saw.*—July 16, 1867.—The openings drilled in the blade opposite to the depression of the teeth lessen the labor of filing, &c.



*Claim.*—The provision in a saw of apertures  $d$ , for facilitating, dressing, or sharpening, substantially as described.

**66,693.**—JAMES E. EMERSON, Trenton, N. J.—*Saw Gummer.*—July 16, 1867.—Improvement on his patent, March 19, 1867.—The cutter-bearing blocks can be attached to either side of the plate and have various journal holes for different sized cutters.

*Claim.*—The adjustable and reversible bearings  $F$   $F'$ , constructed and applied to the curved stock  $A$   $A'$ , in the manner and for the purpose set forth.

**66,694.**—WM. R. ENGLAND, Milwaukee, Wis.—*Water Indicator for Boilers.*—July 16, 1867.—The float oscillates in a vertical plane within a segmental pipe. The axis of the float carries an index finger to which is attached a rod operating the whistle when the water falls dangerously low. A transparent gauge tube is also attached.

*Claim.*—First, the arrangement of the whistle lever  $L$ , connecting rod  $K$ , index hand  $H$ , lever  $F$ , and float  $E$ , substantially as herein set forth.

Second, the arrangement with reference to the first clause of claim of the glass tube  $O$ , and whistle  $M$ , substantially as herein set forth.

Third, the arrangement of the adjustable collars  $m$  and  $n$  with the whistle lever  $L$ , substantially as herein set forth.

**66,695.**—C. ENSMINGER and A. W. ELMER, Springfield, Mass.—*Plumb Level.*—July 16, 1867.—A plumb, level, and protractor are combined in one. The base is a plane. The protractor swings by an axis coincident with its center, and a point on the base determines, in connection with the graduation of the protractor, the inclination of the object on which the base is placed. The index finger is movable by its thumb screw.

*Claim.*—The parallel-sided hand  $a$ , in combination with a semicircular graduated scale  $o$ , as and for the purpose specified.

**66,696.**—HENRY V. FARRIS, Richmond, Ind.—*Horse Rake.*—July 16, 1867.—The self-adjusting draw bar works upon oblique posts, which connect the rake heads and is fitted with loose pins to prevent hay from trailing behind.

*Claim.*—The draw bar  $e$ , posts  $c$   $c$ , and sliding pins  $u$   $u$   $u$ , when operating and constructed substantially as herein set forth.

**66,697.**—JAMES FAYE, Philadelphia, Pa.—*Propelling Hoops.*—July 16, 1867; antedated July 11, 1867.—The hoop runs between rollers in the guide.

*Claim.*—The combination with the hoop of the guide  $b$ , rollers  $c$   $d$  and  $e$ , and stay  $f$ , or their equivalents, the whole being substantially as above described and for the purpose herein stated.

**66,698.**—ROBERT W. FISK, Olney, Ill.—*Safety Pocket.*—July 16, 1867.—The hook attached to the plate projects into the pocket and the ring of the watch is hung thereon. A pivoted prong forms a mousing for the end of the hook to prevent the surreptitious disengagement of the watch.

*Claim.*—A watch safe, consisting essentially of the plate  $D$ , hook  $e$ , prong  $m$  and  $m'$ , when combined and arranged to operate in the manner and for the purpose specified.

**66,699.**—C. W. GAGE, Homer, N. Y.—*Hay Loader.*—July 16, 1867.—The wagon is secured by a pin in the tongue, entering the ground. A horse attached to the rope that runs round the anti-friction rollers of the crane, and, connecting with the fork, elevates the hay on to the load.

*Claim.*—The adjustable arm  $E$  upon the end of shaft  $D$ , tongue  $K$ , and spike  $m$ , sliding brake bar  $L$  in front of the rear wheels  $B$   $B$ , and rope  $G$ , passing to the rear of the wagon, when combined, arranged, and operating in the manner and for the purposes specified.

**66,700.**—ALOIS GANS, Lincoln, Ill., assignor to himself and JOHN MOOS, same place.—*Brick Machine.*—July 16, 1867.—The reciprocating molds are attached in a horizontal plane. The tempered clay is forced from the pug into the molds, in which it is pressed to the proper size, form, and consistency.

*Claim.*—First, the hopper  $A'$ , the molds  $B$   $B'$ , and the carriage  $B^2$ , when combined with the actuating devices  $a^2$   $C$   $C^1$   $C^2$  and  $C^3$ , substantially as described and set forth.

Second, the combination and arrangement of the plungers  $D'$  and the molds  $B$   $B'$ , as described and shown.

Third, the plungers  $D'$ , when arranged as described in combination with the operating devices  $a^2$   $d$   $d^1$   $d^2$   $d^3$   $d^4$   $d^5$   $d^6$   $d^7$ .

Fourth, the clutches  $E$ , in combination with the molds  $B$   $B'$ , as and for the purpose described and shown.

Fifth, the clutches  $E$ , when arranged as described, in combination with the operating devices  $a^2$   $e$   $e^1$   $e^2$   $e^3$   $e^4$ .

**66,701.**—JOHN GLENERT, Washington, Mo.—*Cask for Fermenting Wine.*—July 16, 1867.—The gas escapes by a bent tube in the bung-hole to a cup, which forms a trap to prevent admission of air. Wine is added from a cup above to compensate for loss at the bung-hole.

*Claim.*—First, the combination and arrangement of the cask  $A$ , pipes  $B$   $b$ , and tub  $B'$ , as and for the purpose set forth and described.

Second, the cask  $A$  and the filling device  $C$   $C'$   $e$   $e'$ , when combined in the manner and for the purpose set forth.

**66,702.**—ROBERT GRAY, Litchfield, Ill.—*Elliptic Spring.*—July 16, 1867.—A ridge is formed on the concave side of the leaf of the spring to add to its strength.

*Claim.*—Projecting a rib  $a'$  from the convex side of a leaf of the spring, so as to form a rounded parabolic curve or elliptical curve, as shown in Fig. 3, and substantially for the purpose set forth.

**66,703.**—JOHN GREACEN, Jr., New York, N. Y.—*Smoke Conductor for Railroad Locomotives.*—July 16, 1867; antedated July 5, 1867.—The smoke chamber has a longitudinal opening in its floor above the chimney of the locomotives and conducts the smoke to occasional chimneys in the structure through which the locomotive is passing.

*Claim.*—A smoke chamber, with an opening running longitudinally of the track, in combination with flues or chimneys, as set forth, so that the smoke from the chimney of a locomotive while in motion may be received by said chamber and conveyed away, as specified.

**66,704.**—J. M. GREEN, West Bloomfield, N. Y.—*Potato Digger.*—July 16, 1867.—The self-clearing fork frame is mounted on wheels and the fork protruded and retracted by the lever. The frame and wheels act as a lever and fulcrum to throw the potatoes out of the ground.

*Claim.*—First, the hand potato digger, consisting of the sliding and self-clearing fork  $G$ , lever  $D$ , main frame  $B$ , wheels  $A$ , and spring tread arm  $H$ , the whole arranged, combined, and operating in the manner and for the purpose specified.

Second, the special combination of the clearing bars  $g$   $g$  with the sliding fork  $G$  in potato diggers, as herein described.

Third, the combination of the spring tread arm  $H$  with the hand-wheel potato digger  $A$   $B$ , operating as and for the purpose herein specified.

**66,705.**—C. S. S. GRIFFIN, Ashtabula county, Ohio.—*Portable Field Fence.*—July 16, 1867.—Improvement on his patent, May 24, 1864. The bars lapping beyond each side of the uprights and passing through the triangular posts engage each other.

*Claim.*—The mode of attaching the panels together by lapping over the ends of the boards  $A$  on each side of the slats  $B$ , so as to brace the ends and also adjust them to the inequalities of the ground, as herein described.

**66,706.**—J. R. HAMILTON, Portland, Oregon.—*Air Bed.*—July 16, 1867.—The vertical and horizontal stay cords are tied at their intersections and are attached to the air-tight fabric by screws whose heads and nuts engage the same. The air is supplied through a mouth piece connected with a self-closing puppet valve.



*Claim.*—First, the button-headed screw and cap-nut stay fastening, as constructed and combined with the air-tight or water-proof fabrics, for the purpose herein specified.

Second, the self-closing puppet valve and tube with the screw and plates, when constructed as described and used in combination with air beds, substantially as and for the purpose herein set forth.

**66,707.**—JOHN L. HANSON, Boston, Mass.—*Coal Stove.*—July 16, 1867.—The grate tips in its supporting plate, which, as well as the lining of fire brick, is removable when burning wood. The calorific current may pass direct to the chimney, or may be forced by dampers down a series of vertical tubes to an annular chamber in the base, and up a set of similar tubes to an annular chamber surrounding the oven, from which it passes to the chimney.

*Claim.*—First, the combination as well as the arrangement of the fire chamber A, the two chambers B C, the descending pipes F F', the flue space G, the ascending pipes H H', their chambers Z, and the oven flue space or chamber I and its escape flue or passage.

Second, the combination and arrangement of the flanges *k l m n*, with the dished oven or with the same, the flue space I, the series of pipes H, the flue space G, the pipes F F', the chambers B C, and the fire chamber A.

Third, the combination as well as the arrangement of the series of holes *t t* and their covers, as set forth, with the flue space I, the pipes H F F', the flue space G, and the chambers A B C.

Fourth, the combination as well as the arrangement of the passages *y y*, the flue space G, the chambers A B C, the pipes H F F', the flue space I, and the chamber Z, the whole being substantially as hereinbefore explained.

Fifth, the combination as well as the arrangement of the flange *g*, and the lining guard *h*, with the grate-holding partition *c*, made with a hole through it to receive a grate, as specified.

**66,708.**—W. H. HENDERSON, Litchfield, Ill.—*Sorghum Evaporator.*—July 16, 1867.—A juice trough reaches from chimney to chimney, and has a flue in its lower part for heating the contents, which is discharged into the pan above the furnace. The dampers restrict the heat to the first pan only, or admit it to all.

*Claim.*—First, the combination and arrangement of the chimneys B B' and their connecting trough D, with reference to the boilers A A<sup>1</sup> A<sup>2</sup>, as described and set forth.

Second, the arrangement of the dampers C C<sup>1</sup> C<sup>2</sup> C<sup>3</sup>, as described and set forth.

**66,709.**—A. J. H. HILTON, Boston, Mass., assignor to JOSEPH A. ROBBINS and WM. L. THOMPSON.—*Breech-loading Fire Arm.*—July 16, 1867.—After discharging, the breech block is depressed by a backward sweep of the trigger guard; the main spring takes under a projection, the guard springs back and throws the bell crank shell ejector; the cartridge is inserted, the trigger drawn, and the obliquely sliding breech piece explodes the charge by pressure.

*Claim.*—First, the breech block *f h i*, constructed as described, and moving obliquely to the axis of the barrel, so as to simultaneously close the breech and explode the cartridge, substantially in the manner set forth.

Second, the lever *o o'*, operated by the forward or returning movement of the trigger guard E, for the purpose of ejecting the empty cartridge case, substantially as described.

Third, the combination of the screw spring G with the trigger L L' and trigger guard E, as and for the purpose specified.

**66,710.**—WM. F. HOFMANN, Philadelphia, Pa.—*Window Shutter Holder.*—July 16, 1867.—The bar has indentations and "shoulders" which engage the catch to keep the shutters closed or partially open.

*Claim.*—An improved shutter holder formed by the combination of the bar F and pieces E and G, when said bar is formed with notches or straight parts, the plains of which are at an angle with each other, substantially as herein shown and described and for the purpose set forth.

**66,711.**—ROBERT M. HOLLAND, Philadelphia, Pa.—*Railroad Chair and Sleeper.*—July 16, 1867.—The girder is recessed at bottom and has side flanges and an upper vertical rib, which is recessed to receive the rails and blocks by which they are held. These blocks are attached to toggle levers which are pivoted to the rib, and when in the holding position are held by a pin.

*Claim.*—First, a sleeper consisting of a cast-iron beam or girder, to which are connected the above-described devices or their equivalents for securing the rails to the top of the girder, and permitting their withdrawal therefrom.

Second, the girder A with its recesses *x* in combination with the blocks B and links C, the whole being constructed and arranged substantially as described for the purpose specified.

**66,712.**—A. JAMESON, Trenton, N. J.—*Vise.*—July 16, 1867.—The sliding cylinder of the center jaw slips within the shanks of the fixed jaw, and have side slots traversed by arms, by which the nut is attached to the fixed jaw frame.

*Claim.*—The combination of the jaw A', its hollow shank or arm C and screw D, and the slotted jaw A and nut E, when the latter is arranged within the slot or opening in the jaw and connected to the same as described.

**66,713.**—JAMES JOHNSON, Northampton Co., N. C.—*Combined Cotton Seed Planter and Fertilizer Distributor.*—July 16, 1867.—The plows are regulated by the treadle lever under the driver's feet; and by the vertical lever in front of him he adjusts the slides in the hopper, affecting the amount of seed or fertilizer dropped, the rollers following over the seed. The vibrating grooved diverging apron is used for scattering the fertilizer.

*Claim.*—First, the combination of the teeth G and plows H with the adjustable drag bars E and rollers R, as herein described and for the purposes set forth.

Second, the arrangement and combination of the hoppers C with their adjustable slides D, and operated by the lever J, as herein described and for the purposes set forth.

Third, the vibrating apron S with its diverging grooves, for the purpose of sowing broadcast.

**66,714.**—F. H. KEENEY, Newport, Ky.—*Roundabout Toy.*—July 16, 1867.—The horizontal frame revolves around the central post from the cap of which it is suspended by inclined pendent rods. By rocking the hobby horse the crank shaft attached turns the pinion that gears into the bevel wheel to drive the frame. The latter can otherwise be driven by a pivoted lever attached to a seat connecting by similar gearing with the driving wheel.

*Claim.*—A "roundabout," or flying Dutchman, substantially as described, and adapted to be propelled by the rider or riders by means of one or more cranks and pinions.

**66,715.**—ELISHA KELLEY, Locust Grove, Ohio.—*Broom Head.*—July 16, 1867.—The metallic hinged plates open for the reception of the filling, which is secured in the wire racks attached when the plates are closed. Clasps hold them in position.

*Claim.*—First, the construction of wire racks in combination with hinged or permanently fixed casings or sides, substantially in the manner and for the purpose as herein set forth.

Second, the combination of the stay with the wire racks, substantially in the manner and for the purpose as herein set forth.

**66,716.**—FRANCIS L. KING, Worcester, Mass.—*Machine for Dressing Stone.*—July 16, 1867.—The upper and lower stones are made to dress each other by a system of gearing by which the upper stones receive a rotary and the lower one a longitudinal movement.

*Claim.*—First, the self-adjusting spindles K and their holders H, for rotating the upper stone, in combination with the reciprocating bed C for carrying the lower stone, when constructed, arranged, and operating substantially as set forth.

Second, the combination of the boxes N and rotating collars L with the sliding spindles K, constructed



and operating essentially as and for the purpose specified.

Third, the self-adjusting frame S carrying the lower journal box N L, in combination with the spindle K and holders H, operating substantially as and for the purpose described.

**66,717.**—JOHN KURTZ, Clinton Township, Pa.—*Corn Cultivator and Potato Plow.*—July 16, 1867.—The standards are adjusted in slotted side pieces, guarded on top by metallic plates. The blades are reversible to form it into a corn cultivator or potato plow.

*Claim.*—First, the slotted side pieces B B, with their top and bottom bars or plates C C, and adjustable uprights E E, as arranged and combined with the reversible plows H H, as herein described and for the purposes set forth.

Second, the slotted side pieces B B, with their bars C C, for the purposes set forth.

**66,718.**—SAMUEL LANGMAID, Lawrence, Mass.—*Apparatus for Sifting Coal.*—July 16, 1867; ante-dated June 23, 1867.—The pivoted tilting box is actuated by cams on the crank shaft. The fine coal passes through the grate and is dusted while passing over the inclined screen.

*Claim.*—The pivoted tilting box A, constructed substantially as shown and described, in combination with the gate E, crank shaft F, cams G, and inclined screen H, with or without springs h, the whole arranged to operate substantially as and for the purpose set forth.

**66,719.**—HENRY A. LEE, Worcester, Mass.—*Cutter Heads for Planing Machines.*—July 16, 1867.—The cutters are placed in elongated slots in the matcher-head, and are confined by set screws, which enable the adjustment to various inclinations and depths.

*Claim.*—A matcher head constructed in the peculiar manner above described and as shown in the drawings, so that it may be used equally well in lieu of either a closed or an open matcher head, as and for the purposes set forth.

**66,720.**—AUGUSTUS S. LESNER, Boston, Mass., assignor to himself and A. L. NOYES, same place.—*Mop Wringer.*—July 16, 1867.—The spring holds up the treadle and expands the rollers which close and compress the mop when the treadle is depressed, the hand crank actuating the rollers to wring the mop.

*Claim.*—The arrangement in connection with a pail or bucket placed upon a platform, as shown, of levers c, carrying rolls f f', and attached to treadle C, by links d, all operating together with each other and in combination with the reaction spring h, as and for the purpose described.

**66,721.**—HENRY O. LATHROP, Milford, Mass.—*Steam Engine.*—July 16, 1867.—The three pistons operate within one cylinder which is open at each end; the steam entering the cylinder actuates one piston in one direction and the other two in opposite directions at the same time. By the plurality of pistons the length of the stroke is reduced to about one-third the length the cylinder. One piston rod is sleeved upon the other and they are connected to opposite ends of the walking beam.

*Claim.*—First, the combination or mechanism whereby the two rods F F of the engine pistons are enabled to effect rotary motion of the crank N, or its shaft O, as set forth, such combination consisting of the cross-head c, the slide or carriage R, the connecting rods G H, and shaft K, the lever I, the arm L, and the connecting rod M, the whole being arranged and applied together, substantially as specified.

Second, the mechanism or combination by which the piston is kept stationary for a period during the passage by and beyond the dead point of the crank, such being for the purpose hereinbefore described, consisting in the stationary cam plate S', and the sliding and studded crank N, constructed and applied together, and to the standard Q, and the shaft O, substantially in the manner and to operate as specified.

Third, the combination of such mechanism or its equivalent with one or more cylinders, their piston or pistons, and a crank so connected with the piston or pistons as to be capable of being revolved thereby.

Fourth, the combination or mechanism for supplying steam to and discharging it from the cylinder and its three pistons, as specified, the said mechanism consisting of the two rotary valves U U', their cases T T', and inlet and exhaust chambers f g, and ports, constructed and arranged together, and with the pistons and cylinder, substantially in manner and so as to operate as specified.

**66,722.**—C. C. LYMAN, Edinboro', Pa.—*Platform Scale.*—July 16, 1867.—The weight is thrown on or off the scale by elevating or lowering the platform on inclined planes. This is done by turning a hand wheel connected by a system of gearing with the platform.

*Claim.*—First, the rack F, inclined planes E, and cog wheels K; as arranged in combination with the platform B, for the purpose and in the manner as set forth.

Second, the grooved pulley J and rope L, or its equivalent, as arranged and operating the pulley J, in the manner and for the purpose described.

Third, the use of inclined planes, or their equivalents, for the purpose of raising and lowering the platform, substantially as specified.

**66,723.**—GAYLORD MARTIN, Milwaukee, Wis., assignor to himself and GEORGE BURHAM, same place.—*Brick Machine.*—July 16, 1867.—The clay is mixed and forced through the rotating grate by the rotating cutters and rollers, and falls into the pug mill, and from thence passes laterally to the press box. The molds are placed on a vibrating and longitudinally-reciprocating table, by which they are alternately presented to the press box and to the operator.

*Claim.*—First, revolving grate F', cutters G', and rollers H, in combination substantially as and for the purpose described.

Second, adjusting nut H, screw M, slide G, pitman F, yoke I, slide L, and follower K, in combination substantially as described.

Third, followers K, when made with pipes K', substantially as described.

Fourth, jointed lever Q, shaft R, lever S, cams T, and weights X, in combination for the purpose of holding the stove door shut against any ordinary pressure, and when the stove door is opened by extraordinary pressure to lower the platform at the same time, and to shut the door and raise the platform simultaneously when the extraordinary pressure is relieved.

Fifth, lowering platform U simultaneously with opening stove door P, and closing said door and raising the platform automatically, substantially as described.

Sixth, slide C', jointed lever D', rocker shaft B', slotted lever A', pitman Z, and roller E', in combination with crank and crank shaft Y, substantially as and for the purpose described.

**66,724.**—E. C. MAYER and JACOB RUPPENTHAL, St. Louis, Mo.—*Globe Valve for Steam Engines.*—July 16, 1867.—The cylindrical valve case fixed within the globe is removable for grinding in the valve that has its seat within the case. This permits the removal of the valve case and reseating the valve without disconnecting the globe from the pipe.

*Claim.*—The valve case B and the valve D, when combined with the globe A in the manner and for the purpose set forth.

**66,725.**—A. McDUGAL, Manchester, England, assignor to McDUGAL BROTHERS, same place.—*Compound for Destroying Insects.*—July 16, 1867.—Explained by the claim.

*Claim.*—The employment of and use of the oil obtained (after the naphtha or spirit has been removed) in the distillation of tar, resulting from the destructive distillation of carbonaceous substances, or of any of the constituents of this oil, in combination with an alkali or an alkaline earth, and with fatty or other saponifiable substances, and with an acid hereinbefore described, as a dressing for sheep or other animals, to destroy or to protect them from vermin or insects, or as a soap for disinfecting or clearing purposes, and as a protection to the skin from the attack of insects, and when such oil or any of its constituents, after treatment with an acid, is combined with an alkali or alkaline earth. The same as a material for the disin-



fection of foecal swage or other matters and the destruction of entozie parasites contained therein or for the destruction of entozie parasites or vermin in soils.

**66,726.**—CARL MEINERTH, Newburyport, Mass.—*Printing Photographs.*—July 16, 1867.—Between the negative film and the paper is a transparent layer to disperse the light and produce a softness of outline and tinting.

*Claim.*—The interposition of any transparent medium or a mat between the negative film and the printing surface, for the purpose of producing the effect as shown in the enclosed specimens.

**66,727.**—JOSEPH MILLER, Alliance, Ohio.—*Weather Strip.*—July 16, 1867.—The inclined weather strip is inserted in a groove in the door, and attached by brackets whose lips embrace its lower edge.

*Claim.*—Supporting the weather strip C to the door in the groove by means of the brackets D, provided with the lip *a*, combined in the manner and for the purpose substantially as set forth.

**66,728.**—JOSHUA MONROE, New York, N. Y., assignor to himself and J. GARDNER, same place.—*Lacer for Knee Braces, &c.*—July 16, 1867.—The lacer is connected in front and rear by laces, and the two sections are connected at the knee by pivoted hinged bars rigidly attached to the sockets.

*Claim.*—A lacer for knee braces, artificial limbs, and splints, which is made in two parts connected by lacing strings or other suitable adjustable fastenings in front and in the rear, to operate in combination with the joint C and socket B, substantially as and for the purpose described.

**66,729.**—GEORGE R. NEBINGER, Lewisburg, Pa.—*Hinge.*—July 16, 1867; antedated July 5, 1867.—Wings are fitted to the lever of the hinge, and the variation in their position will constitute it either a right or left hand hinge.

*Claim.*—First, a hinge, consisting of the wings A and B, in combination with the plates C, constructed and arranged as shown and described.

Second, the arm *a* attached to the pin that unites the wings, and having the shoulder *c* thereon, as and for the purpose set forth.

**66,730.**—D. F. NEIKIRK, Republic, Ohio.—*Horse Hay Fork.*—July 16, 1867.—The central transverse bar forms a pivot for the support, which in use is brought up and connected to the bail by a spring catch. The catch is tripped by a cord to release the hay.

*Claim.*—The hay fork with curved or angular tines, a central support D, a bail which affords end supports, and to which the hoisting rope is attached, and a pivoted connection which passes through the fork at a point near the curve, or at the angle of its tines, when such fork has its spring catch arranged on its central support D, and also has a loop E attached to or formed on the bail, all of the said parts being arranged and operated substantially in the manner and for the purpose herein described.

**66,731.**—INGWER P. NISSEN, Davenport, Iowa.—*Washing Machine.*—July 16, 1867; antedated March 12, 1867.—The semicircular rocking box has transverse ribs inside, and is pivoted on the frame on which it rocks.

*Claim.*—The combination of the sides B, the zinc bottom C, with the braces D, and the triangular ribs K, when the same is pivoted and hung upon the standards A, as and for the purpose specified.

**66,732.**—BUTLER G. NOBLE, New York, N. Y.—*Article of Food from Oyster Juice.*—July 16, 1867.—The natural liquor of the oyster is concentrated by evaporation and desiccation.

*Claim.*—The extract of oyster as a new article of manufacture, the same being the natural juice or liquor of the oyster, concentrated by evaporation to a state of dryness, substantially as and for the purposes herein set forth.

**66,733.**—ADRIAN V. B. ORR, Steepleville, Pa.—*Car Coupling.*—July 16, 1867.—When the coupling is brought in contact, the link removes the ring that supports the pin, when it drops and engages the link.

*Claim.*—In an automatic car coupling the combination of the stop D with the spring S, and the link-supporting device *a*, with its spring *g*, all constructed, arranged, and operating as described, for the purpose set forth.

**66,734.**—W. PILKINGTON, Frankford, Pa., and D. PILKINGTON, Chester, Pa.—*Stop Motion for Looms.*—July 16, 1867.—When the filling is exhausted or broken the filling fork is left behind and fails to lift the finger. As the lay advances, the stand on the lay sword comes in contact with the finger and is forced forward, actuating lever connections to shift the belt and stop the loom.

*Claim.*—First, the combination of the fork *f*, lever *s*, finger *b*, and stand *a*, constructed and operating as and for the described purpose.

Second, the combination of the swell *e*, lever *c*, and lever *s*, as and for the above described purpose.

**66,735.**—FREDERICK POST, Plano, Ill.—*Water Wheel.*—July 16, 1867.—The wheel has buckets in the top plate, as well as at the periphery. The peripheral buckets are curved downward to allow free central descent to the water.

*Claim.*—The cap E, in combination with wheel *g*, having buckets *h* and I, the latter being curved downward at the bottom, the whole being arranged substantially as and for the purposes set forth.

**66,736.**—I. F. QUINBY, Rochester, N. Y.—*Gold Washer.*—July 16, 1867.—Designed for the placer diggings. A counter current of water passes through the earth which descends in the tube. The revolving beater agitates the mass and the fine earthy and organic matter is floated off, while the heavier matters are collected in a chamber at the foot of the tube.

*Claim.*—First, passing the gold-bearing sand or other material to be washed through an upward or counter current of water, for the purposes herein shown and described.

Second, the employment of the agitator, constructed, arranged, and operating in combination with the tubes E, C, and G, substantially in the manner and for the purposes set forth.

Third, the water box B, when constructed, arranged, and operating conjointly with the deposit chamber A and the supply or induction tube T and the vertical discharge pipe G, for the purposes set forth.

Fourth, the general construction and arrangement of all the parts, substantially in the manner and for the purposes herein shown and described.

**66,737.**—M. RANDOLPH, St. Louis, Mo., assignor to himself and J. S. TODD.—*Barrel-Stave Jointers.*—July 16, 1867.—The blank is placed on a fixed table and conveyed by grippers to a knife, by which one edge is jointed; it is then seized by other grippers and conveyed to the knife by which the other side is jointed.

*Claim.*—First, the automatic feeding grippers *F*, *f*, *f*<sup>1</sup>, *f*<sup>2</sup>, and *f*<sup>3</sup>, for the purpose of conveying staves to and from the jointing knife, substantially as described.

Second, the jointing knives G and G', when arranged in combination with the table A' and the feeding grippers so as to allow two staves to be jointed on opposite edges simultaneously and at one stroke or revolution of the machine.

**66,738.**—ALBERT J. REDWAY, Cincinnati, Ohio.—*Charcoal Furnace.*—July 16, 1867.—The body has curved corrugated sides and air openings at the lower part. The grate has cavities in its out-curved edge to allow passage to the air.

*Claim.*—The combination with the shell or body A, having interior flues or channels *a a* and air inlets I I', at its opposite sides, of the detachable grate or fire-basket E *e*, having a crenulated edge *f f*, perforations or caliducts F, and air openings G G, all as herein described and for the purpose set forth.

**66,739.**—JOHN RICHARDS, Washington, D. C.—*Implement for Wagoners.*—July 16, 1867.—The wagon hammer or double-tree bolt has a head, blade, and sockets; the washer is a screw-driver and the nut of the pointed crank is the head of an anger. It consti-



tutes a hatchet, hammer, wrench, screw-driver, auger, and awl.

*Claim.*—The improved implement for wagoners constructed and arranged substantially as herein described and for the purposes set forth.

**66,740.**—MILO A. RICHARDSON, Sherman, N. Y., assignor to himself and ALVA F. JENNINGS, same place.—*Washing Machine.*—July 16, 1867.—The frame is attachable to the bottom of a wash-tub by a thumb-screw. The clothes are passed between the corrugated roller and the concave bed of independent spirally-fluted rollers.

*Claim.*—First, in combination with the wash-tub A, the washing apparatus, constructed substantially as described, centrally attached to the bottom thereof when in use and readily removable when not required, substantially as set forth.

Second, the series of bed rollers D D, spirally grooved in alternating directions, in combination with the driving rollers C, arranged and operating substantially as set forth.

Third, a convex-surfaced roller C, provided with serrate grooves, as described, the beds of which are parallel, and not with the surface thereof, substantially as and for the purposes set forth.

Fourth, the hook-headed spring connections of the heads g, shanks I, and coiled springs h, for holding the working roller adjustably in its bearings and permitting ready disconnection therefrom, substantially as set forth.

Fifth, in combination with the washing machine, as described, the device for clamping the frame B to the tub, consisting of the bent bolt P, clutch block Q, and thumb-screw t, arranged and operating substantially as set forth.

**66,741.**—F. M. ROBINSON and T. G. SPRINGER, Conneautville, Pa.—*Hay Raker and Loader.*—July 16, 1867.—The rotating toothed drum gathers the hay that the rake has collected, and endless bands raise it on to the wagon.

*Claim.*—First, the hooked or bent spring teeth d, applied to the revolving drum D, guided by means of bars C, and acted upon at proper times so as to leave the hay upon the endless carrier G, by means of rods g and cams or inclined bars E', substantially as described.

Second, the hooked or bent spring teeth d, applied to a revolving drum D, guided by means of bars c, and acted upon at proper times so as to leave the hay upon the endless carrier G, by means of rods g and cams or inclined bars E, substantially as described, in combination with the spring rake E, the teeth of which are arranged so as to rake up the hay and also serve as guards for the spring teeth d in elevating hay, substantially as herein specified.

Third, the hooked or bent spring teeth d, applied to revolving drum D, guided by means of bars c, and acted upon at proper times so as to leave the hay upon the endless carriers G, by means, substantially as described, of communicating a rapid rotary motion to said drum D, so that the speed of this drum shall be greater than that of the driving wheels, substantially as specified.

**66,742.**—HENRY ROLLE, Boston, Mass.—*Propeller.*—July 16, 1867.—The vertical paddles are attached to horizontal bars which are actuated by a pair of cranks so as to move the paddle in an elliptical path.

*Claim.*—The combination with the blades c and bars b, of the long and short armed double cranks D D' and cranks F F', the whole being arranged for operation and for the purposes set forth.

**66,743.**—J. J. SAVAGE, Troy, N. Y.—*Grate for Stoves.*—July 16, 1867.—Explained by the claim and illustration.

*Claim.*—First, a fire grate for stoves composed of a curved or angular-formed lifting and hold-back, a grate part D, having side or end pieces G G, and suspended within the fire box by journals F F', or their equivalents, in such manner that it may swing upwards for the purpose herein set forth, and having arranged to operate in combination therewith a horizontal grate part C, which jointly with said grate part D constitutes said fire grate, in manner substantially

as herein described and operating for the purpose set forth.

Second, the arrangement, in combination with the fuel reservoir of stoves and front fire-grate part C thereof, of a lifting and hold-back grate part D, constructed substantially as described and arranged in such position thereto respectively as to operate for the purpose and in manner as herein set forth.

Third, in combination with a fuel reservoir of stoves and fire box thereof, a lifting and hold-back grate part D, arranged in connection with a dumping or tilting grate part C in such manner as to be operated simultaneously by and with the same, as and for the purpose herein set forth, said grate parts respectively being constructed substantially as described.

Fourth, the combination of a lifting and hold-back grate part D with a dumping or tilting fire-grate part C, constructed and arranged to operate by and in connection with each other in manner substantially as shown.

Fifth, in combination with a lifting and hold-back grate or plate D and a fire grate C, a lifter-arm L, arranged substantially in manner as herein described and for the purpose set forth.

**66,744.**—F. SCHMITT, Springfield, Ill.—*Artificial Leg.*—July 16, 1867.—The shells of the limb are made of alternate layers of veneer and linen cemented by glue. The knee has a rule joint, and anterior and posterior springs give elasticity to the articulation. The lower leg has a tenon socketed in the foot and carrying the strap which is sleeved around the pivot bolt in the foot, and forming the ankle articulation.

*Claim.*—First, constructing the upper and lower portions of an artificial leg A and B, or either of them, of alternate strips of thin wood and cloth, substantially as and for the purposes specified.

Second, the pivot 5 of the ankle joint, when located centrally as respects the length of the foot, and constructed and operating substantially as described.

Third, the combination and arrangement of the tenon D, plate 6, hinge rod 5, and springs 2 and 3 with the foot C and lower portion of the leg B, forming the ankle joint, when constructed and operating substantially as specified.

Fourth, the combination and arrangement of the spring strap 1, knee opening f, calf opening h, rule joint 7, and cords or lacing 9 with the upper portion A and lower portion B of the leg, forming the knee joint, when constructed and operating substantially as and for the purposes specified.

**66,745.**—ALBERT G. SMITH, Cleveland, Ohio.—*Trenching and Hoisting Apparatus.*—July 16, 1867.—The windlass frame has three swinging beams, from each of which a bucket is suspended. The buckets have bars jointed to their bottoms and giving attachment for ropes by which the buckets are tilted.

*Claim.*—First, the buckets H, provided with the tilting straps c, when arranged and operated conjointly by the pulleys I, ropes J and N, cranes D E F, and windlass L, as and for the purpose set forth.

Second, the pulleys a a', paws M, as arranged and operating conjointly and in combination with the cranes D E F and buckets H, in the manner and for the purpose described.

Third, the cranes D E F, in combination with the frames A B and rollers Q, for the purpose and in the manner set forth.

Fourth, the combination of a movable frame with one or more cranes and hoisting apparatus, so arranged over the ditch or channel being excavated, that the cranes and hoisting apparatus will be self-sustaining with said frame, when operating conjointly in the manner and for the purpose set forth.

**66,746.**—ANTOINE SOURSIN, St. Louis, Mo.—*Shifting Top for Carriages.*—July 16, 1867.—The bows and loops of the calash top are attached to a shifting rail, which is connected by studs to sockets on the seat rail of the carriage.

*Claim.*—The combination and arrangement of the seat A, its loops a, and the knobs a', the shifting rail B, substantially as set forth.

**66,747.**—ANTOINE SOURSIN, St. Louis, Mo.—*Machine for Adjusting Carriage Top Bows.*—July 16, 1867.—A frame is temporarily erected upon the seat and is made adjustable in every direction so as



to present a "former," on which the bows, &c., may be fitted and hold the parts in position while the loops, &c., are attached.

*Claim.*—First, an adjustable frame work  $E E'$ , when applied to a carriage body or seat in such a manner as to form a false work or frame on which to place and adjust the carriage bows or hoops preparatory to fixing the said hoops on the said vehicle, substantially as herein described and set forth.

Second, the bed-plates  $\Delta \Delta^1 \Delta^2$ , when combined and arranged substantially as herein set forth, for the purpose of adjusting the machine laterally and longitudinally on the vehicle to which it is applied.

Third, the posts  $D$ , when combined with the pendulous posts  $D^1$ , and the adjusting arms  $D^3$ , as herein described and set forth.

Fourth, the graduated beams  $E$ , in combination with the beams  $E^1$  and  $D$ , and the screws  $E^2$  and  $e$ , as and for the purpose set forth.

Fifth, the sliding stick  $I I'$ , when constructed and employed as and for the purpose set forth.

**66,748.**—JAMES L. SPENSER, Wellville, Va.—*Sulky Plow and Tobacco Hiller Attachment.*—July 16, 1867.—The treadle rods attached to the levers raise the plows independently. By depression of a lever the treadle rods are depressed, simultaneously raising the gang of plows. The tobacco hilling scrapers trail in the rear.

*Claim.*—First, the combination and arrangement of the plows  $G G^1 G^2 G^3$ , with the arms  $M M^1$ , and  $ll$ , substantially as and for the purpose specified.

Second, the roller  $L$ , having the short arms  $ll$  adjustable in position, and having the handle  $l^1$ , substantially as and for the purpose described.

Third, the pole  $T$ , having the shovel  $t$ , and the blunt arm  $t^1$ , substantially as and for the purpose specified.

Fourth, the combination of the gear wheel  $P$ , the pinion  $g$ , the lever  $R$ , the shaft  $Q$ , bearing the wheel  $S$ , and the pivoted pole  $T$ , bearing the shovel  $t$ , and the blunt arm  $t^1$ , substantially as and for the purpose described.

**66,749.**—JOSEPH H. SPRINGER and JOHN C. McDONALD, Philadelphia, Pa., assignors to themselves, RICHARD G. HOWELL, and GEORGE STITES, same place.—*Apparatus for Carburetting Air.*—July 16, 1867.—The chamber is half-filled with oil, and the chamber above it to the top of the tubes. Air is forced in and descends the tubes, escapes at their lower slits, ascends in bubbles to the space above, passes to the next chamber where the shield intercepts liquid, and thence to the holder.

*Claim.*—First, the perforated air tubes, constructed, arranged and operating as described.

Second, the combination of two carburetting chambers, separated by a diaphragm traversed by air tubes, substantially in the manner described.

Third, the combination of the oil chambers and tank with the perforations  $e$ , and shield  $F$ , arranged and operating as and for the purpose described.

**66,750.**—ENOCH E. STUBBS and THOMAS C. DAVIS, West Elkton, Ohio.—*Evaporating Pan.*—July 16, 1867.—The boiling-down pan has a strainer at its elevated end into which the scum is dipped, a pipe conveying the draining back to the pan. Revolving syrup pans are pivoted to bring either pan over the furnace. The granulator is attached to the outer pan, being a series of perforated plates onto which a discharge pipe empties from the syrup pans.

*Claim.*—First, the skimming apparatus consisting of the trough  $v$ , and tube  $x$ , in combination with trough  $w$ , and strainer  $z$ , arranged at the elevated end of the pan  $K$ , for draining the syrup from the extraneous matter, in the manner and for the purpose described.

Second, the spring catches  $i i$ , arranged in the manner described upon the pan  $B$ , to act in connection with the projecting edge of turntable  $a$ , for holding the granulator and cooler  $D$  in position, in the manner and for the purpose specified.

**66,751.**—EDWARD L. STURTEVANT, Boston, Mass.—*Magazine Fire Arm.*—July 16, 1867.—Depression of the guard lever withdraws the breech block and raises the cartridge carrier which places the cartridge in line with the bore. By raising the guard lever, the breech is thrown forward, driving the cartridge

into the bore. The carrier is depressed and another cartridge from the magazine is forced into place for the next operation.

*Claim.*—First, the combination with a sliding breech or recoil block of a cartridge carrier, held in and actuated by but not forming a part of said breech block, under such an arrangement that the breech block in its sliding movement shall cause the raising and lowering of the carrier, as herein specified.

Second, the carrier  $e$ , in combination with the sliding block  $C$ , and its grooves or recess  $s$ , for raising the cartridge into line with the barrel, as well as for expelling the empty shell, essentially in manner and to operate as explained.

Third, the employment of the carrier  $e$ , and its spring, for the combined purpose of raising the cartridge and at the same time keeping back the supply of cartridges within the magazine, substantially as described.

Fourth, the peculiar mode of connecting the guard lever  $D$  to the sliding block  $C$ , viz., by the dovetailed groove  $l$ , and studs upon the lever, in manner and for the purpose as explained.

Fifth, the peculiar formation of the grooves  $jj$ , whereby the cartridge carrier  $e$  is caused to rise and elevate the cartridge, and substantially to guide the carrier and cartridge forward in a line with the bore of the barrel, essentially as explained.

**66,752.**—CHARLES C. TAINTOR, Springfield, Ill.—*Apparatus for Warming Water by Petroleum Lamps.*—July 16, 1867; antedated June 26, 1867.—The lamp case is water tight and is submerged to heat the water in a bath. Pipes and chimneys afford a circulation of air.

*Claim.*—The lamp  $I$ , in combination with the air pipes  $D D$ , and eduction pipes  $C C C$ , when arranged to operate in vessel  $A$ , in combination with boiler  $H$ , as shown.

**66,753.**—SIDNEY VAN AUKEN and JAMES H. GRAHAM, Binghamton, N. Y.—*Milk Strainer.*—July 16, 1867.—Rubber packing fills the groove at the point of contact of the frame with the pail, to which it is tightly held by the cams beneath. A removable strainer is attached to the middle of the frame.

*Claim.*—The frame  $A$ , and the mode of attaching it to the pail, in combination with the detachable strainer  $G$ , and the spring  $H$ , all constructed substantially as herein described and represented, for the purpose set forth.

**66,754.**—E. E. VAN ETTEN, Mount Morris, N. Y.—*Clamp for Filing Saws.*—July 16, 1867.—The swivel clamps are secured and adjusted by set screws attached thereto.

*Claim.*—The arrangement of the swiveled clamps  $C D$ , the set screws  $h g$ , key hole socket  $r$ , and the groove  $g$ , constructed and operating in the manner and for the purpose specified.

**66,755.**—ANTONY WALLACH, New York, N. Y., assignor to himself and ADOLPH WALLACH, same place.—*Hook for Watch Chains.*—July 16, 1867.—The saddle is united to the mousing hooks by a joint pin, and has a swivel ring for the attachment of the chain ring.

*Claim.*—The hooks  $a$  and  $b$ , united by the joint pin  $c$ , in combination with the saddle  $d$ , and swivel, as specified.

**66,756.**—WILLIAM WEAVER, Phoenixville, Pa.—*Rock Drill.*—July 16, 1867.—As the shaft revolves one of the curved arms strikes a projection on the nut and feeds the drill rod; a continuance of the motion elevates the latter, turning it as it rises and then drops it, to make the effective blow. The extent of the motion of the nut is regulated by bringing the disks toward or from each other.

*Claim.*—First, the drill rod  $D$ , nut  $N$ , and spring  $k$ , bearing on the nut, in combination with the within-described devices, or their equivalents, for first turning the nut on the drill rod and then elevating and turning both together, the whole being constructed and operating substantially as and for the purpose specified.

Second, the drill rod  $D$ , nut  $N$ , with its projections  $i$ , in combination with the shaft  $L$ , and its peculiarly



bent arms *s s*, the whole being arranged and operating substantially as and for the purpose described.

Third, the tube *d*, arranged in respect to the rod *D* and nut *N*, substantially as and for the purpose set forth.

Fourth, the nut *N*, consisting of two adjustable disks *f f'*, an intervening elastic washer *e* and set screw *8*, or its equivalent.

Fifth, the adjustable plate *l*, or its equivalent, in combination with the spring *k*, for the purpose as described.

Sixth, the combination of the frame *C*, platform *A*, legs *B*, and bars *a²*, the whole being constructed and arranged for adjustment substantially as set forth.

Seventh, the groove *e* in the rod *D*, and set screw *3*, combined and operating substantially as set forth.

**66,757.**—JOSEPH H. WEBSTER, St. Louis, Mo., assignor to himself and JOHN KUPFERLE, same place. —*Steam Globe Valve.*—July 16, 1867.—The "bonnet" or sleeve has a smooth portion which fits the screw-threaded nozzle into which the sleeve is screwed, but has free motion therein, so that when the sleeve is unscrewed a short distance it may act as a guide to the stem in guiding the valve.

*Claim.*—The bonnet *E*, constructed with a blank end on the shank *H*, and arranged in relation to the valve, valve stem, and seat, substantially as described, for the purpose specified.

**66,758.**—JOSEPH H. WEBSTER, St. Louis, Mo., assignor to himself and JOHN KUPFERLE, same place. —*Metallic Packing for Piston Rods.*—July 16, 1867.—The packing space is made elliptical, and the follower is perforated for casting in soft alloy as packing.

*Claim.*—In combination with the stuffing box the solid alloy *e*, when made of an oblong form and arranged in relation to the stuffing box, rod, and gland, so that the screwing down of the latter will contract the two ends of the packing around the rod, as shown and described.

**66,759.**—P. G. B. WESTMACOTT, Elswick, Newcastle-upon-Tyne, England. —*Device for Cleaning Grain.*—July 16, 1867; antedated November 21, 1866. —Explained by the claims.

*Claim.*—Arranging machinery for conveying and treating corn, grain, or other articles in bulk, substantially as hereinbefore described, and especially with a rapidly traveling band on to which the grain is delivered down an incline or shoot, in such manner that the material when it comes upon the band may be traveling approximately in the same direction and at the same speed as the band.

Also, the bending up the band into a tray-like form, at the point where the grain or material is fed on to it, substantially as herein described.

Also, the arranging the said machinery in such manner that the carrying band may be deflected at any point where it is desired to remove the grain or material from it in such manner as to cause the grain or material to leave it and shoot forward into a guide trough or shoot by which it is led away, substantially as herein described.

Also, the cleansing of corn, grain, or other articles by throwing it off at such a velocity from the band that the lighter particles and dust are by the resistance of the air separated from the bulk, substantially as herein described.

Also, the arranging the said machinery in such manner that by deflecting the carrying band it may be caused, where desired, to give motion to a transverse band, or to distributing and conditioning apparatus, substantially as herein described.

Also, the distributing and conditioning corn, grain, or other article by causing it to descend on to the cone or instrument with radial arms rotating on a vertical axis, substantially as herein described.

**66,760.**—EDWIN L. YANCEY, Utica, N. Y. —*Carriage Curtain Button-Hole.*—July 16, 1867.—The metallic plate has a circular opening for the passage of the button, and is cut with side-wise projecting points from each corner, for attachment to the curtain, and in-turned edges to hold a slide, slotted to embrace the button neck.

*Claim.*—The plates *A B*, arms *G* and slide *D*, as arranged in combination with the curtain *I*, for the purpose and in the manner as set forth.

**66,761.**—EDWIN L. YANCEY, Utica, N. Y. —*Carriage Curtain Button-Hole.*—July 16, 1867.—The metallic plate encloses a piece of rubber having a circular hole permitting the passage of the button. The inner side of the plate has a concave portion to receive the button head.

*Claim.*—The plate *C*, provided with the arms *D E* and cap *H*, as arranged in combination with the curtain *G*, for the purpose and in the manner as set forth.

**66,762.**—ALBERT A. YOUNG, Boston, Mass., assignor to himself and GEORGE T. DALTON, same place. —*Brush.*—July 16, 1867.—The shank of the handle slips in a groove on the back of the brush, and is secured by a set screw. It may be attached to either end of the brush as the latter wears.

*Claim.*—The combination and arrangement of the handle *C*, the shank *a*, and its groove *b*, with the metallic plates *d d*, the set screw *e*, and the pivot *e*, whereby the handle is reversed with reference to the body of the brush, substantially as described.

**66,763.**—CALVIN YOUNG, Auburn, N. Y. —*Machine for Cutting Dovetails.*—July 16, 1867.—The bottom and sides of the dovetails are cut by the trapezoidal hollow chisel containing the auger, which is projected horizontally by a hand lever. The inner side is cut by a bisected chisel, depressed by a treadle and expansible, to form the under-cut.

*Claim.*—First, the combination of a hollow chisel, two of the sides of which are parallel but of unequal length, and the remaining two sides of which are not parallel but are of equal length, and one or more augers working in or through said hollow chisel, for the purpose of cutting dovetails, substantially in the manner described.

Also, in combination with two chisels whose cutting edges are held together by a spring or yielding attachment, the studs or pins which, when moved into the path of the chisel, cause them to spread laterally, for the purpose of cutting down the back wall of a dovetail and cleaning out the corners or underneath portions, substantially as described.

**66,764.**—ISAAC N. YOUNG, Swann, Ind. —*Farm Gate.*—July 16, 1867.—The extension bar of the gate slides on anti-friction rollers attached to the main and an auxiliary post, and projections in front engage in the latch-post. The lower bars slide longitudinally, to allow the passage of small animals.

*Claim.*—The gate above described, having the movable bars *e e*, the slotted uprights *D D D*, the bolt and nut *e*, the flanged balance bar *F*, the three rollers *g g g*, and the pin *p*, all constructed and arranged substantially as and for the purpose specified.

**66,765.**—ISAAC N. YOUNG, Swann, Ind. —*Clover Thresher, Huller, and Cleaner.*—July 16, 1867.—The clover is fed in at the throat, threshed by the cylinder, received on the slatted apron, carried up past the beater, the hay picked off by the picker and removed by the straw carrier, while the seed and chaff fall into the shaking shoe, where the sieves, the vibratory action and the blast finish the separation, and deliver the results separately.

*Claim.*—First, the adjustable pick *G*, working in the movable bearings *y y*, substantially as and for the purpose described.

Second, the drums *g g*, connecting or disconnecting with each other, when in motion, by the ratchet and pawl, substantially as and for the purpose specified.

Third, the combination and arrangement of the thresher *B*, the beater *F*, the apron *E*, the pick *G*, the straw carrier *H*, the table *W*, the huller *I*, the fan *K*, the cleaning sieves *L L*, and the elevator *O*, all constructed and arranged substantially as and for the purpose specified.

**66,766.**—SOLOMON W. YOUNG, Providence, R. I., assignor to himself and J. W. HOARD, same place. —*Wood Screw.*—July 16, 1867.—The conical end of the screw has longitudinal grooves, which give cutting edges to its thread.

*Claim.*—As a new article of manufacture a gimlet-pointed screw, having one or more grooves or indentations in the shank and thread thereof in the plane of, but obliquely to the axis of, the said shank; that



is to say, having the grooves formed between the point and cylindrical part of the shank, substantially in the manner and for the purposes set forth.

**66,767.**—HENRY ZELLNER, Columbia, Tenn.—*Breaking and Cleaning Hemp.*—July 16, 1867.—The hemp is fed between serrated breaking rollers, revolving at a moderate speed, and is received on a more rapidly moving slatted apron, above which is a reciprocating slatted beater.

*Claim.*—First, the combination of the beater G, having the slats *g g*, with the endless apron F, having the slats *i i*, substantially as and for the purpose described.

Second, the combination of the beater G, pitmans K K, crank shaft I, idle wheel O, cog wheel P, shaft or roller *f'*, and apron F, for the purpose of adjusting the motion of the apron F to that of the beater G.

Third, the arrangement of the rapidly-moving apron F, in combination with the slowly revolving feed rollers *d'* F, substantially as and for the purpose specified.

**66,768.**—HENRY ZELLNER, Columbia, Tenn.—*Combined Seed Sower and Roller.*—July 16, 1867.—The sifter is connected with and operated by a foot lever below the driver's seat, and is followed by the roller which supports the machine.

*Claim.*—The combination and arrangement of the roller C, arms D D, roller G, pitmans H H, and the vibrating agitator or sifter I of a seed box B, substantially as and for the purpose described.

**66,769.**—CALVIN ADAMS, Pittsburg, Pa.—*Soap Dish.*—July 16, 1867; antedated July 9, 1867.—The dish has legs and a drain aperture with projections to detain the soap.

*Claim.*—First, a soap dish, with two or more lugs or pins projecting from the bottom or edge of the dish, in the manner substantially as and for the purpose shown and described.

Second, as an article of manufacture a cast-iron soap dish, in the manner substantially as shown and described.

**66,770.**—WM. ADAMSON, Philadelphia, Pa.—*Match Lighter.*—July 16, 1867.—Explained by the claims.

*Claim.*—First, a match lighter, consisting of a strip of paper or other material, part of which is sanded or otherwise roughened, and part left plain, for the purpose specified.

Second, the combination described of the sand-paper, the advertising card, and strip of glass or mica.

**66,771.**—B. J. AURAND, Mount Gilead, Ohio.—*Harness Shaft Loop.*—July 16, 1867.—The wooden or metallic shaft loop has a leather band surrounding it between the flanges of its edge.

*Claim.*—As a new article of manufacture a harness shaft loop, constructed as described, consisting of the wooden or metallic ring B, having raised flanges *a* upon its outer and inner sides, between which are fitted flush with the periphery and inner circumference the continuous leather band and lining, as herein described, for the purpose specified.

**66,772.**—JAMES AUTEN, Chili, N. Y.—*Thill Coupling.*—July 16, 1867.—The coupling irons are connected with a bolt and packed by a rubber spring to prevent vibration.

*Claim.*—The combination and arrangement of the rubber blocks *b b* and the packing *f*, with the clip made in two parts *c d*, connected by bolt E, as shown and described and for the purpose set forth.

**66,773.**—D. R. AVERILL, Newburg, Ohio.—*Paint Compound.*—July 16, 1867.—Oxide of zinc, 200 lbs., is compounded with linseed oil, 20 galls. A second mixture consists of acetate of lead, 5 lbs.; sulphate of zinc, 10 lbs., dissolved in water to 3° Beaumé. A third consists of a solution of silicate of soda, to make 3 galls., at 8° Beaumé. A fourth is lime water; to 3 galls. of the second and third mixtures add 6 galls. of lime water and linseed oil, combine the result with the first mixture, and add 6 galls. benzine.

*Claim.*—A paint composed of the ingredients herein

named and prepared, and compounded substantially in the manner specified.

**66,774.**—BENJAMIN F. AVERY, Louisville, Ky.—*Plow.*—July 16, 1867.—The standard of cast iron passes through the beam and is secured by a key. It furnishes bearing for the mold board, share, and land-side. The left handle is attached to a brace piece, which is attached by a brace bar to the standard.

*Claim.*—First, the cast standard skeleton D, constructed substantially in the manner herein shown and described and for the purpose set forth.

Second, the point F and arm *f'*, constructed and attached to the skeleton D, substantially in the manner herein shown and described.

Third, the brace bar G, constructed with lugs *g'* and *g''*, and secured to the mold board E, handle C, and land-side of the skeleton D, substantially in the manner herein shown and described and for the purpose set forth.

**66,775.**—JOHN G. BAILEY, Hillsdale, Mich.—*Washing Machine.*—July 16, 1867.—The clothes are passed in either direction between the fluted rollers, and are guided by the smaller roller and apron.

*Claim.*—First, the combination of the small roller I and apron J with the fluted cylinders B and D, and with the box A, substantially as herein shown and for the purpose set forth.

Second, the combination of the springs E and levers F, with each other and with the journals of the roller D and box A, substantially as herein shown and described and for the purpose set forth.

**66,776.**—JOHN W. BAKER, Warsaw, Ind.—*Printers' Galleys.*—July 16, 1867.—The end, when in position, is held by dovetails. The screws of the moving lateral piece turn in collars in the same, and pass through nuts in the side.

*Claim.*—A printer's galley having the detachable end piece A in combination with the adjustable side stick *c*, operated substantially as shown and described.

**66,777.**—J. F. BARKER and C. N. GILBERT, Springfield, Mass.—*Apparatus for Carbureting Air and Gas.*—July 16, 1867.—A heated fluid passes through a coil in the carbureter, so as to assist in vaporization of the hydrocarbon when the atmospheric air is passed through it. The carbureted air, after issuing from the carbureter, is subjected to a lesser temperature than it will afterward experience, so as to condense all that might otherwise collect in the pipes.

*Claim.*—First, the heating of the fluid of any carbureter used for the purpose of carbureting air or gas, by means of a heated fluid, the same being circulated in pipes and radiators through the carbureter and heater, substantially as herein described and set forth.

Second, the heater B, having a case B' filled with a non-conducting substance, and the coil *m'* when used in combination with radiators placed inside a carbureter, substantially as herein described and for the purpose set forth.

Third, in combination with a carbureting apparatus, a condenser, substantially as herein described, so as to cool the gas after being carbureted and before it passes into the distributing pipes for the purpose hereinbefore specified.

Fourth, the use of the condenser C in combination with the carbureter A, the radiators *c* and T, and the heater B, when constructed substantially as described and for the purposes herein specified.

Fifth, the valve H *h* in combination with the pipe *a*, radiators *c* and T, and carbureter A, all constructed substantially as described and for the purpose herein specified.

Sixth, the heater B<sup>2</sup>, having the space O between the two cylinders *l* and *l'* with the inverted cone *n*, having its base open and attached to the upper part of said cylinder *l*, so that the interior of said inverted cone *n* shall communicate with the space O, all constructed and operating substantially as herein described and set forth.

**66,778.**—UDNEY N. BEARDSLEY, Goshen, Ind.—*Gate.*—July 16, 1867.—The gates are hinged together in the middle by an adjustable rod regulating the height of the outer gate by a thumb screw on top.



They close together, if desired, to reduce the strain on the hinges.

*Claim.*—First, pivoting the large gate E at its middle part to the forward end of the small gate A, the rear end of which is hinged to the gate post in the ordinary manner, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the arms B and rods C, with the gates A and E, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the rod K with the rear ends of the gates A and E, substantially as herein shown and described and for the purpose set forth.

Fourth, securing the bottom board *e'* of the gate E, removably in place by the bolts N and O, substantially as herein shown and described and for the purpose set forth.

**66,779.**—WM. BELLAMY, Newark, N. J.—*Ice Pitcher.*—July 16, 1867.—The lids opening in reverse directions do not interfere with each other or with the insertion of ice. A tube connects the spout with the bottom of the pitcher, conveying the liquid direct therefrom.

*Claim.*—First, an ice or double-walled pitcher provided with two lids hinged to the top of the pitcher at opposite or different points, substantially as and for the purpose specified.

Second, the spout G, placed between the two walls and communicating with the bottom of the pitcher and the nozzle or spout thereof, substantially as and for the purpose set forth.

**66,780.**—WM. JONES BERNE, Cincinnati, Ohio.—*Attaching Calks to Horseshoes.*—July 16, 1867.—Sockets with calks attached are slipped on the rear ends of the shoes, and connected by straps and bolts to the toe piece which carries a calk.

*Claim.*—Adjustable calks which may be applied to ordinary horseshoes without removing the latter, by means of the socket A, toe-piece B, cross-piece D, and straps C, substantially as described.

**66,781.**—ROBERT BLACK, Holyoke, Mass., assignor to himself, MARTIN DEVINEY, and JOHN MURPHY, Chicopee, Mass.—*Hammer Head.*—July 16, 1867; antedated July 7, 1867.—The socket is cast of malleable iron and attached to the wrought part by brazing.

*Claim.*—As a new article of manufacture a hammer head constructed of the parts A and B, the part B being cast and attached to the part A, substantially in the manner and for the purpose described.

**66,782.**—E. G. BLAKSLER, Sing Sing, N. Y.—*Joints for Iron Pipe.*—July 16, 1867.—A packing of lead and oakum is applied between the inner pipe and the larger enlargement of the outer one.

*Claim.*—First, the joint for cast-iron pipes formed by a socket with two enlargements at one end of a length of pipe receiving the end of the next length of pipe and made tight by the packing *d*, as set forth.

Second, forming the packing for the joints of cast-iron pipes of a ring of soft metal cast in a separate mold, and calked or driven into the joint as set forth.

**66,783.**—S. H. BLOSSOM, Buffalo, N. Y., and J. E. HUSTON, Hillsdale, Mich.—*Flour Bolt.*—July 16, 1867.—The meal from the mill is passed through two bolts successively, the first one being the coarser. A double provision of separating boards at the head of each bolt prevents the passage of specks into the matter that has been bolted.

*Claim.*—First, the bolts C and E, constructed, arranged and operating as described to separate the feed from the meal and the flour from the midlings consecutively.

Second, the secondary chamber *p*, employed in combination with the chamber *p'*, as and for the purposes set forth.

**66,784.**—CHARLES BOYNTON, Lyons City, Iowa.—*Attaching Thills.*—July 16, 1867.—A spring is attached to the under side of the thill by the same bolts which secure the thill strap. The spring supports the fore ends of the thills. Beneath the spring, upon the rear bolt, is an elastic packing block.

*Claim.*—The spring or rigid piece of metal C, the packing H, and the adjustable bolt F, when con-

structed, arranged and operating substantially as and for the purposes above set forth.

**66,785.**—JOHN F. BOYNTON, Syracuse, N. Y.—*Converting Iron into Steel.*—July 16, 1867.—A current of carburated hydrogen gas or carbonized air is passed over the iron while the latter is in a highly heated state.

*Claim.*—First, in carrying the above-described method into effect, the use of hydrocarbon gas surcharged with carbon by passing it through a carbonizing vessel and mixing or combining it with hydrocarbon vapors by any known means of producing that result.

Second, in carrying the above described method into effect, the use of other gases hereinbefore mentioned, when charged with hydrocarbon vapors.

Third, in carrying the above described method into effect, the use of atmospheric air charged with hydrocarbon vapors by any known means of producing that result.

Fourth, in carrying the above described method into effect, the heating of heavy hydrocarbons to cause their vapors more readily to mix or combine with the gases or air and be carried forward therewith.

Fifth, melting iron or the nitrocarbonized compound after it has been converted into steel by the above described method and thereby converting it into cast steel, as described.

Sixth, in carrying the above described method into effect, the use of hydrocarbon vapors without admixture with gas or air, as and for the purpose set forth.

Seventh, in carrying into effect the method herein described of converting iron into steel, coating a portion of any piece of iron with a wash, as described, to prevent the portion so coated from being converted into steel.

Eighth, converting the oxides of iron directly into steel by one heating, by passing carburated or carbonized hydrogen gas over and through the same when in a highly heated state, according to the method or process therein described.

**66,786.**—EDWIN D. BRAINERD, Albany, N. Y.—*Drying and Purifying Air for Preserving Animal and Vegetable Substances.*—July 16, 1867.—The moisture is condensed and collected in a close chamber on the exterior of an ice box, which has a waste pipe and water trap.

*Claim.*—First, the improved method of drying and purifying the air in a close chamber at a low temperature for preserving animal and vegetable substances, substantially as herein described.

Second, the condenser C, the collecting vessel D, the pipes *a b*, and the overflow box *e*, or the equivalents of them or either of them, in combination with a close chamber A, when arranged to operate substantially as and for the purposes herein described.

**66,787.**—T. E. C. BRINLEY, Louisville, Ky., assignor to himself and J. G. DODGE, same place.—*Plow.*—July 16, 1867.—Improvement on his patent, July 3, 1866.—The mold board and point are removable from the united standard and landside, and a cotton scraper or sweep may be substituted in their place.

*Claim.*—First, the standard and landside cast in a single piece and provided with the flange C, constructed as described.

Second, a plow consisting of the flanged standards as above described in combination with a separate mold board and point of cast-iron, as set forth.

Third, a plow consisting of the flanged standard as described in combination with a mold board and point made separately of steel, as described.

**66,788.**—GEORGE P. BROOKS, and JAMES McGRADY, Boston, Mass.—*Shaving Cup.*—July 16, 1867.—The soap tray is inside the mug, conveniently placed for the brush and the hot water.

*Claim.*—The within described shaving mug A with its soap receptacle B, substantially as described.

**66,789.**—JOHN D. BRUNNER, Doylestown, Pa.—*Attaching Thills to Vehicles.*—July 16, 1867.—Secured by a clip to the axle is a bar whose slot receives a bolt on the end of the thill iron. The loop of the latter catches over the shoulder on the bar.

*Claim.*—The bar A provided with the slot *o* as



herein described, when used with the head D and bolt E, in the manner and for the purposes specified.

**66,790.**—H. H. BRYANT, Boston, Mass.—*Fire-proof Safe*.—July 16, 1867.—Explained by the claims and illustration.

*Claim.*—First, a safe or similar structure provided with chambers or vessels for holding water or other suitable liquid, and inclosed within an outer chamber or jacket for receiving the steam and vapor discharged from said chambers or vessels, as herein shown and set forth.

Second, the combination with one or more water chambers or vessels of an exterior steam air chamber or chambers, under the arrangement herein described, so that the steam generated within the said water chambers shall be discharged through suitable vents or valves into the exterior steam chambers and thence into the open air, substantially as and for the purposes specified.

Third, forming the walls of a safe or other similar structure of an inner water or other liquid compartment, and an outer air or steam chamber communicating with each other and with the exterior of the structure, as and for the purposes herein shown and set forth.

Fourth, in a safe or other suitable structure, the combination with a water chamber of suitable construction of a flexible tube and float or buoy, for conducting the steam from said chambers, as herein shown and described.

Fifth, the combination and arrangement with the steam and water chambers of the vents or valves for the eduction of steam from said chambers, and for the introduction of the liquid into the water chamber, substantially as shown and set forth.

Sixth, the combination with the body of a safe, or similar structure of ordinary or suitable construction, of a door in which air or steam and water compartments are arranged as herein specified, the said compartments being provided with vents or valves arranged to discharge the steam generated in the water chamber, in the manner described.

**66,791.**—S. P. CAMPBELL, Buffalo, N. Y., assignor to himself and FRANCIS M. LORING, Gloucester, Mass.—*Tellurian*.—July 16, 1867.—For the purpose of illustrating to the eye the real and apparent movements of the earth; exhibiting the constancy of the pole during the entire yearly revolution; the ellipticity of the earth's orbit; the position of the sun (the lamp) in one of the foci of that ellipse; the inclination of the pole to the plane of the ecliptic; the apparent movement through the constellations of the zodiac; the phenomena of eclipses; day and night; sunrise and sunset; the varying declination of the sun; the equation of time; changes of the seasons; motions and phases of the moon, &c.

*Claim.*—First, the elliptical guideway Q in combination with the stud L and operative mechanism of the instrument, for the purpose of illustrating the ellipticity of the earth's orbit.

Second, the horizontal circle p, constructed in two parts and graduated as described, in combination with the globe of a tellurian.

Third, the traveler D and plate K, having the connection and movements described in combination with the stud L, grand wheel G, guideway Q, and cup Y, or its equivalent, for the purpose of giving an orbital movement to the globe without changing the direction of its pole.

Fourth, in combination with the globe of a tellurian the elliptic plane or dial u u, constructed with an elliptical channel, as shown and described.

Fifth, the transparent zodiacal ring v, as set forth and described.

Sixth, the dial P of a tellurian marked with the line of apsides, the equinoctial and solstitial lines, the months, the table of the equation of time, the signs and constellations of the zodiac, and the effect of the precession of the equinoxes, as set forth and described.

Seventh, the traveller D provided with the shaft H, pinion J J, and racks B B or their equivalents, in combination with the plate K, stud L, and guideway, the whole operating as set forth to produce an illustration of the orbital movement of the earth.

Eighth, the grand wheel G and elliptical rack R in combination with the barrel V, with its lower pinion

and the wheel W at its upper end, for the purpose set forth.

Ninth, the grand wheel G and elliptical rack R, in combination with the barrel V, with its lower pinion and the wheel W secured at its upper end, the train i and moon wheel X, for the purpose set forth.

Tenth, the wheel X, with the arm l, in combination with the arm t and inclined flange w.

Eleventh, the plate U provided with the index y, in combination with the plate s and grand wheel G, as set forth and described.

**66,792.**—WM. L. CAMP, Holden, Mass.—*Washing Machine*.—July 16, 1867.—The horizontal rotating disk has pendent, grooved floats. It is removable with the cover.

*Claim.*—The combination of the revolving disk D, having grooved floats E attached to it, each float being at a different distance from the center, with the tub A, having capped wings F G attached to it, substantially as herein shown and described and for the purpose set forth.

**66,793.**—NEWELL CARPENTER and JAMES HUTCHINSON, White Creek, Wis.—*Hop Press*.—July 16, 1867.—The lever is fulcrumed in the sliding block, and the anti-friction roller at its lower end is brought to bear on the beam to depress the same.

*Claim.*—A novel arrangement for applying lever power to press hops, or similar substances, consisting of the blocks F, provided with the dogs e, and the hinged lever G, provided with the flanged rollers d, in combination with the ratchet plates D, beams C, and pawls a, when arranged to operate as described.

**66,794.**—M. L. CHANGEUR, Paris, France.—*Corset*.—July 16, 1867.—The bands encompass the waist; are adjustable in front and detachable behind.

*Claim.*—The corset or bodice provided with bands A, made detachable at their one end and adjustable at the other end, arranged and operating substantially as shown and described.

**66,795.**—WM. L. CLARK, Cambria, Wis.—*Flood or Waste Gate*.—July 16, 1867.—The overflow gates are connected to arms upon a gate in the dam wall of the flume, and oscillate the latter gate upon its horizontal axis to allow the rapid escape of water. The gate is closed by water pressure when the overflow has ceased.

*Claim.*—The combination of the three gates B B C, arranged within a flume or box A, and connected together, to operate in the manner substantially as and for the purpose herein set forth.

**66,796.**—ALEXANDER CLOW, Erie, Pa., assignor to himself and JOHN HENDRY, same place.—*Instrument for Laying out Stair Railings*.—July 16, 1867.—The plank furnishing the rail is inclined similarly to the stair and at a proper distance from the standard to give the required curve. The line is then drawn by the oscillating marker, which may be reversed to mark the plank beneath. For an elliptical curve the rectangular trammel is placed on the standard in place of the plain hub.

*Claim.*—The herein described apparatus consisting of the standard A, tracing arm C, pattern E, adjustable support F, and foot clamp G, arranged and operating substantially as and for the purposes herein set forth.

Also, the combination of a trammel with the above-claimed apparatus, arranged and operating substantially as and for the purposes set forth.

**66,797.**—WILLIAM A. COBB, Orange, Mass.—*Propeller*.—July 16, 1867.—The paddles are fixed to a frame suspended and operated by cranks which depress the paddles into the water for the effective stroke, and raise them from the water during the return stroke.

*Claim.*—The propeller constructed as described, consisting of the frame D, having the series of vertical paddles E, and hung at each end upon the crank shafts C, between the sills A, said crank shaft connected by the crank wheels F, and shackle bars G, all operated directly from the engine by the driving bars H, as herein shown and described for the purpose specified.



**66,798.**—CHARLES E. COLLINS, San Francisco, Cal.—*Combined Instrument for Watch Makers' Use.*—July 16, 1867.—The rotating head has radial keys of various sizes. The scale plates fold within the handle.

*Claim.*—An improved instrument for watch makers' use formed by the combination of measuring gauges for watch crystals, main springs, and wheel-pinions, a revolving bench key and a case opener, all united and connected with one handle, substantially in the manner as herein described.

**66,799.**—G. W. COREY, Port Jervis, N. Y.—*Bridge.*—July 16, 1867.—The braces passing between the string pieces of the chords fit into recesses having angular projections at the points of union of the braces and enter shoes attached to the stringers. Transverse keys secure the attachment of the stringers.

*Claim.*—The braces *a*, shoe *f*, and keys *g*, all constructed and arranged as described and for the purpose set forth.

**66,800.**—F. F. CORNELL, JR., New York, N. Y.—*Brick Machine.*—July 16, 1867.—The mold bottom and one side are movable and are driven outward to expel the brick. The pressure is given by a horizontally moving plunger, actuated by a toggle lever, a roller acting against the rear side of the mold when under pressure.

*Claim.*—First, a mold for forming bricks or blocks open on two of its contiguous sides.

Second, the movable mould block *M*, with its outer side *f*, tapered inward in a direction opposite to its motion when discharging a finished brick and retained in position by the fixed block *K*, having a corresponding taper at *f'*, and by ribs *j j*, attached to the fixed blocks *K K*.

Third, the gate *P*, or its equivalents, provided with the dovetail slip *p*, moving in the dovetail groove *p'*, in the side of the fixed block *K*, as and for the purposes hereinbefore described.

Fourth, the bed plate *A*, standards *T T*, spindle *C*, supporting roller *B*, cross head *D*, bolts *m m*, groove *h*, to receive the index bar *H*, and groove *e*, to receive the flange *i*, as and for the purposes hereinbefore described.

Fifth, the index bar *H*, with a suitably beveled end moving in proper guides to engage with notch *v*, in the flange *i*, or with any other mechanical device in combination with a movable table or nest of molds, as and for the purposes hereinbefore described.

Sixth, the swinging jaw *E*, having lugs to which may be attached rods or frame furnishing resistance to the power used for moving the plunger forward when pressing a brick, as and for the purposes hereinbefore described.

Seventh, beveling the upper faces of the fixed blocks *K*, as and for the purposes hereinbefore described.

Eighth, the bed plate *A*, plunger *L*, index bar *H*, mold table *I*, flange *i*, notch *v*, supporting roller *B*, cross head *D*, and bolts *m m*, standards *T T*, and head bolt *F*, all arranged as and for the purposes hereinbefore described.

**66,801.**—SILAS L. COVELL, Troy, N. Y.—*Construction of Bell Pulls and Trips.*—July 16, 1867.—The trip that operates the hammer is placed near the pull instead of at the bell. The trip and catch are placed at such points that as the arm of the bell knob is drawn out the trip slips off the catch, which being disengaged actuates the striker.

*Claim.*—The combination of the arm *A* with the trip *B*, spring *C*, and catch *D*, constructed and operating substantially in the manner and for the purpose herein described.

**66,802.**—M. A. and I. M. CRAVATH, Bloomington, Ill.—*Revolving Plow.*—July 16, 1867.—Each plow is made of a single plate of steel, concavo-convex in shape, the edge sharpened with the bevel on the outer side. The plows are arranged in oblique series so as to clear each other's furrows and have an obliquity on their axes relatively to the line of draft, to give the width of the furrow slice.

*Claim.*—First, the plow *A*, combined with the axle *a*, constructed as herein mentioned, as a new article of manufacture.

Second, the arms *e f g h*, of different shapes and lengths as shown for the purpose of combining and operating two or more plows.

Third, the combination of the slides *F F*, the bent lever *G G*, the swivels *H H*, the curved straps *I I*, or any equivalent device, to operate the wheels *E E*, in the manner set forth for the purpose herein mentioned.

**66,803.**—AUSTIN B. CULVER, Westfield, N. Y., assignor to ALFRED S. PATTERSON, same place.—*Fanning Mill.*—July 16, 1867.—Either the parallel or the oscillating movements of the shoe are attached; the first by the suspension chain, and the second by hooks engaging the sides of the shoe.

*Claim.*—Combining in one machine the two motions for chaffing and separating by means arranged and operating substantially as herein described.

**66,804.**—M. S. CURTIS and W. D. TEWKSBURY, New York, N. Y.—*Hose and other Couplings.*—July 16, 1867.—The segmental rib and projected screw block of the outer coupling piece enter a circumferential groove of the other piece.

*Claim.*—First, the combination with the bevel rings or formations *b* and *c* on the male and female butts of the bevel-edged sliding block *E*, when said sliding block is prevented from revolving and operated by means of a screw restrained from longitudinal play, substantially as specified.

Second, the combination of the swivel cap *F*, screw *e*, and sliding block *E* for operation in connection with the butts and their beveled rings or formations, all constructed and arranged essentially as herein set forth.

**66,805.**—SAMUEL CUSTER, Salem, Va.—*Mariner's Compass.*—July 16, 1867; antedated July 12, 1867.—A battery of magnets is placed between the main battery and the direction needle. The intermediate battery is vertically adjustable, and moves in the same plane as the lower one. Its purpose is to correct the needle by repulsion in a contrary direction to that in which it may be attracted by any local magnetic force.

*Claim.*—First, the combination of the lower battery magnet with the correcting battery above it, substantially as and for the purpose described.

Second, the combination of the correcting battery with the upper or main directive needle as well as the arrangement of adjustment position of magnets, as and for the purpose described.

Third, the combination of the main directive needle with the correcting battery below it, under its arrangement of two or more magnets, as and for the purpose herein described.

**66,806.**—SAMUEL CUSTER, Salem, Va.—*Magnetizing Compass Needles.*—July 16, 1867; antedated July 12, 1867.—The magnets are imbedded in hinged jaws, so as to bring similar poles in contact. The needle to be magnetized is introduced and drawn out, alternate ends being applied.

*Claim.*—The combination of a pair of magnets under the arrangement for opening and closing after the needle to be magnetized has been introduced, substantially as and for the purpose described.

Also, the adjustment of the hinges by any mechanical arrangement which will produce the intended effect, substantially as and for the purpose described.

**66,807.**—MARTIN DARLING, Blodgett's Mills, N. Y.—*Fruit Gatherer.*—July 16, 1867.—The table and its cloth are in two semi-annular portions, and are placed around the stems of the tree to catch the falling fruit which passes through spouts to buckets below.

*Claim.*—First, a cloth table and frame divided in two parts *A C A' C'* to facilitate its application and removal from the body of the tree, as herein described and for the purpose set forth.

Second, a cloth table and frame, constructed in two parts *A C A' C'*, and each part made to fold up by joints or hinges *i i*, substantially as herein shown and for the purpose described.

Third, the extension legs *g' G*, in combination with the fruit gathering table *A*, substantially in the manner and for the purpose set forth.



**66,808.**—O. A. DEAN, Champaign, Ill.—*Stitching Horse*.—July 16, 1867.—Instead of securing the clamp rigidly to the frame, it is made virtually adjustable to suit the varying stature of persons using it. The pin secures it at the required height to plates depending from the seat.

*Claim.*—The adjustable clamp B of a saddler's stitching horse, arranged and operating as and for the purpose herein described.

**66,809.**—C. P. DEVEREAUX, North Newburg, Mich.—*Plow Cleaner*.—July 16, 1867.—The cleaner plate is pivoted to the beam, and operated by a lever hinged to the handle.

*Claim.*—First, forming a wing or extension  $d^1$  upon or attaching it to the rear side of the lower part  $d^2$  of the cleaner D, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the lever F with the connecting rod E and handle C, substantially as herein shown and described, and for the purpose set forth.

**66,810.**—HENRY C. DOBSON, New York, N. Y.—*Banjo*.—July 16, 1867.—The annular frame over which the parchment is stretched is attached to the circular sounding frame by angle pieces.

*Claim.*—So securing the frame for holding the parchment head of a banjo or other similar musical instrument to its rim or cylinder having the sound-board upon the back or under side as to leave an open space around and between the said parchment head frame and rim, substantially as herein described and for the purpose specified.

**66,811.**—J. G. DODGE, Louisville, Ky.—*Washing Machine*.—July 16, 1867.—Improvement on the patent of R. C. Cyphers, October 25, 1859. A series of slats are suspended on elastic bands stretched longitudinally along the box, and attached to coil springs, over which a rubbing frame swings.

*Claim.*—First, providing the rubbing frame with the additional hinged rod  $i$ , located in the narrow space as described.

Second, securing the series of slats in place by means of the rod  $p$ , plate  $d$ , and piece  $m$ , arranged as shown and described.

**66,812.**—A. J. DOOLITTLE, Hamden, Conn.—*Scrubbing Brush*.—July 16, 1867.—The prongs on the end of the handle are sprung into the slots on the box attached to the back of the brush, and the handle becomes a means of operating the brush.

*Claim.*—First, the brush provided on its back with the slotted boxes F F, as and for the purpose set forth.

Second, the handle C, provided with the spring prongs D, when used in combination with the brush and its boxes as and for the purpose specified.

**66,813.**—DUANE DOTY, Detroit, Mich.—*Folding Table*.—July 16, 1867.—The supporting frames crossing each other at right angles, and halved together, have a pivot bolt so long as to allow of one being raised and turned vertically over the other one. The top is so hinged as to be turned edge down.

*Claim.*—The combination of the bolt C, notches  $a$  and  $b$ , and the hinged top when made for joint action, substantially as herein described and for the purposes herein set forth.

**66,814.**—JAMES L. DRAKE, Boston, N. Y.—*Milk Pail and Strainer*.—July 16, 1867.—The united pail, strainer and stool has a removable funnel attached for conveying the milk into the pail without raising the lid.

*Claim.*—The utensil herein described, consisting of the closed vessel A, hinged cover C, adjustable and removable funnel  $f$ , and strainer  $g$ , constructed and operating substantially as and for the purpose set forth.

Also, in combination therewith the elastic ring  $i$  on the joint of tubes D and E, arranged and operating in the manner specified.

**66,815.**—DANIEL DUNCAN and E. R. RIDGLEY, Olney, Ill.—*Washing Machine*.—July 16, 1867.—The perforated corrugated concave is attached with springs, and when vertically depressed forces the

suds up in jets. The vibrating roller is journaled in bearings in the lid and is operated by a lever.

*Claim.*—The arrangement of the perforated and corrugated spring concave with the vibrating roller journaled in bearings in the lid, operating substantially as described and represented.

**66,816.**—JAMES C. EASTMAN, Titusville, Pa.—*Drill Jar*.—July 16, 1867.—The parts involved in the tensile strain of lifting are made of wrought iron, and the parts which collide in jarring are made of steel, which does not batter up so quickly.

*Claim.*—A pair of jars applied to drilling tools and other similar uses, constructed of wrought iron and steel, combined and applied substantially as represented, and for the objects herein set forth.

**66,817.**—H. F. EDWARDS and W. C. WHITING, Worcester, Mass.—*Attaching Thills to Sleighs, &c.*—July 16, 1867; antedated July 8, 1867.—Slotted eyes are secured to the cross-bar, and the thills are attached thereto by a rod and a burr at the end. The position of the thills is arranged for center or side draft.

*Claim.*—The combination of the connecting rod  $a$  with a key  $s$ , or its equivalent, attached with any number of slotted eyes  $c c c c$ , through which the rod  $d$  may pass and in which it may turn, the key  $s$  and the slots in the eyes  $c c c c$  being at such relative position as may be desirable or convenient, in the manner and for the purposes set forth.

**66,818.**—GEORGE S. FAULKNER, Staffordville, Conn.—*Cam for Looms*.—July 16, 1867.—The irregular double-faced cam is mounted on the cylinder and has flanges, which, in connection with the inclined blocks on the treadle, impart the required motion thereto.

*Claim.*—The double-faced cam C, when arranged on a shaft B, and when provided with flanges  $d e$  and  $f$ , in combination with the inclined blocks D on the treadle, the latter being provided with a pin  $g$ , as set forth.

**66,819.**—CHARLES H. FIELD, Providence, R. I.—*Rosette Engine*.—July 16, 1867.—To grave the "barley corn," or convolute ornamentation on the cases of watches, &c. The spindle and its operating gear are supported in a frame attached to a rock shaft, whose oscillation is governed by a grooved wheel connected to the spindle gearing, and whose face engages a fixed detent; a spring acting counter to the detent. The graver tool rest is pivoted at its inner side, and has oscillation by power communicated from the spindle mechanism through gearing, an extensible connecting rod, and gimbal joint to a wheel upon the leading screw of the rest. The tool post is upon a slide, driven forward by a spring, and regulated by an arm whose anti-friction pulley follows the curve of a fixed former.

*Claim.*—First, combining the rocking frame C with the mechanism which operates the graver, substantially as described.

Second, combining the rosette wheel or pattern with the spindle which gives motion to the holding block by the toothed wheels F and F', of different dimensions, substantially as described for the purposes specified.

Third, combining the carriage which carries the graver with a pattern block L', substantially as described for the purposes specified.

**66,820.**—BENJAMIN FITTS, Newark, N. J.—*Pipe Coupling*.—July 16, 1867.—The coupling is screwed on to the smaller pipe to the length of itself; the other pipe is placed in position, and the coupling is turned back on the larger pipe, which, having a coarser thread, causes the approach of the pipes and bears upon the elastic packing.

*Claim.*—A pipe coupling, constructed substantially as herein described.

**66,821.**—SETH FLETCHER, Skowhegan, Me.—*Water Wheel*.—July 16, 1867.—The wheel is mounted on a vertical shaft. The curb is supported by posts and has a circular opening concentric with the shaft. The scroll-shaped deflector has a flat top and inclined sides, with a gradually decreasing sectional area as the water escapes therefrom to the wheel, whose floor



is a frustum of a hollow cone, and whose buckets are curved to receive the impact, and then discharge outwardly and downwardly.

*Claim.*—The curb, as made with the inclined scroll deflector, as specified, in combination with the wheel as made with the conical bottom, and having its buckets arranged as specified.

**66,822.**—ADAM FOSS, Wayne county, Ohio.—*Whitewash Brush.*—July 16, 1867.—The bristles are secured to the metallic frame on each side of a leather prolongation of the head-piece, through which the nails are driven.

*Claim.*—The leather strips C, inserted in band A, in the manner and for the purpose substantially as set forth.

**66,823.**—GEORGE W. FOX, St. Joseph county, Mich.—*Farm Gate.*—July 16, 1867.—The pintle of the gate hinges is a long vertical rod; a ring and set screw on the rod regulate the height of the gate.

*Claim.*—A gate having a post *b*, hinge bar *c*, rest *d*, hinges *e e'*, ring *f* and set screw *g*, arranged, combined, and operating for the purposes and in the manner substantially as herein described.

**66,824.**—ALVIN FRANKLIN, Galena, Ohio.—*Wool-packing Table.*—July 16, 1867.—The tie cords are hitched to the catches at the edge of the concave bed, and pass under the wool and through the slots of the apron and holes in the bed beneath. The slotted apron is passed over the wool and attached to a treadle lever, by which the wool is compressed, drawing it into the concave bed in position to be tied by the cord.

*Claim.*—First, the concave bed D, applied at one end of the apron bed B', and extending below the plane of this bed, substantially as described.

Second, attaching one end of the slitted apron F to an adjustable bar F', applied to the concave bed D, substantially as and for the purposes described.

Third, the elastic strap *i*, as applied over the baling cords *e*, substantially as and for the purpose described.

Fourth, the combination of the three-pronged cord holders E with the concave bed D, substantially as described.

Fifth, the application of spring latches *b'* to the sides of the elevated portion of the concave bed D, substantially as described.

Sixth, the combination of the lever G, swinging arm *h*, hook *g*, and apron F, substantially as described.

**66,825.**—L. H. FRANKLIN, Poland, N. Y.—*Weighing Scale.*—July 16, 1867.—The article is suspended on a lever connecting by a strap at its outer end with an eccentrically journaled lever which carries a pointer vibrating in a graduated slot to indicate the weight of the article suspended.

*Claim.*—The swing case A with indexes, in combination with the eccentric *b*, the strap *a*, and the lever B, arranged and operating for weighing, substantially as herein described.

**66,826.**—GEORGE L. GAVETT, Sandstone, Mich.—*Fence.*—July 16, 1867.—The rails are supported laterally by posts planted in the sills and braced by inclined stakes, also inserted in the sills and locking between the two top rails of the fence.

*Claim.*—The employment of diagonal tie braces F, in combination with sills C and posts D for bracing and tying the panel rails of a fence, either with or without the pins *p*, substantially in the manner herein specified.

**66,827.**—JOHN F. GEBHART, New Albany, Ind.—*Harness Motion for Looms.*—July 16, 1867.—To enable the weaving of twilled goods the right instead of the wrong side up, the treadles and cams are changed from underneath to the end of the loom, with the necessary alteration of their contingent connecting parts.

*Claim.*—First, the frame F with sheaves G G G for carrying the straps from the end of the loom to the heddle frame when said frames are connected to the under part of the looms by the straps and pulleys J J J, for the purpose specified.

Second, the combined worm cam M placed under the heddle frame H, into which are placed the pins on

the bars P for shifting the shafts *g g* with clutches *e e*, in the manner and for the purpose set forth.

Third, the arrangement of the shaft *b* provided with sliding cams D D, cog K, with the driving shaft X and its gear, and the treadles E, for the purposes specified.

Fourth, the combination and arrangement of the frame B upon the end of the loom frame A for supporting the cam shaft and cam to operate the treadles when said treadles are secured upon the stand C and connected to the straps which pass over the frame F and connect the heddle frames H with straps and pulleys J, in the manner and for the purposes set forth.

**66,828.**—JOHN F. GEBHART, New Albany, Ind.—*Harness Motion for Looms.*—July 16, 1867.—The metallic wheel on the summit of the shaft has two lugs on opposite sides of its circumference and notches in the edge of the wheel alongside the lugs which engage with the spur wheel that connects with the dogs and levers actuating the slides that are supported upon bars in the frame.

*Claim.*—First, the arrangement of the slides F F F and dogs G as constructed and used in combination with the levers H H and cam D, for the purposes specified.

Second, the wheel E with lugs *g g*, shaft I, spur wheel *n*, cylinder K, with pins *z z z*, for operating the dogs G and giving motion to the slides F, when constructed and operating in the manner and for the purposes set forth.

Third, the arrangement of the slides F, sheaves *d d'* *d''*, and cords *e e*, with the frames A A' and bows *a a*, as herein set forth.

**66,829.**—SYLVESTER GOEWY, Dormansville, N. Y.—*Farm Gate.*—July 16, 1867.—The rails of the gate are linked together and the gate is balanced by weighted cords. The top rail slides in the slotted posts into the recess beneath. The button in the middle of the top bar is turned to keep it down.

*Claim.*—The combination of the horizontal bars A, connecting chains D, or their equivalents, slotted posts B, ropes or chains G, and weights I, with each other, substantially as herein shown and described and for the purpose set forth.

**66,830.**—STEPHEN J. GOLD, Cornwall, Conn.—*Machinery for Propelling Vessels.*—July 16, 1867.—The paddle wheels are driven by pinions engaging teeth on their peripheries. Rubber packing is inserted beneath the flanges of the cog rim and the driving body of the pinion. Steam pipes are placed in position to melt ice that gathers on the gearing. Transverse walls connected near the top, by a web, strengthen the hull of the vessel.

*Claim.*—First, applying the power to turn the paddle wheels directly to the paddle wheels at or near their peripheries by means of gear cogs on said paddle wheels which mesh into the cogs of a suitable pinion, which pinion is driven by the engine, substantially as herein above set forth.

Second, separating the rim of the pinion I from the minor portion M to which it is secured and with which it turns by interposing between them india-rubber or some other elastic non-resonant body, substantially as and for the purpose set forth.

Third, the combination with the gearing on the paddle wheels of the pipes Q, substantially as and for the purpose specified.

Fourth, the combination with the pipes Q and S of the openings through the shaft U for supplying the said pipes Q with steam, substantially as and to the effect set forth.

Fifth, the combination of paddle wheels turned by means of cog gear on said paddle wheels at or near their peripheries and suitable pinions operated by steam machinery, substantially in the manner set forth, with the hull of a vessel constructed with numerous transverse walls or bulkheads connected near the top thereof by a web in such a manner that the said walls will sufficiently stiffen and strengthen the vessel without the use of ribs, substantially as herein above described.

**66,831.**—WM. GOODMAN, Troy, Mich.—*Washing Machine.*—July 16, 1867.—The outer tub, the inner perforated tub, and the rotating corrugated roller are



pivoted on the one bolt. The water is emptied by swinging the outer tub, the inner one retaining the clothes.

*Claim.*—First, the combination of the exterior and interior semi-cylindrical tubs B and D with each other, and with the frame A, substantially as herein shown and described, and for the purpose set forth.

Second, the combination of the cylindrical rubber E and frame F with the interior tub D, substantially as herein shown and described, and for the purpose set forth.

Third, pivoting the exterior tub B, the interior tub D, and the rubber frame F to the frame A by the same pivoting rod C, substantially as herein shown and described.

**66,832.**—BURTON GREENSIDE, Fort Dodge, Iowa.—*Gate.*—July 16, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination and arrangement of the cogged or toothed plates  $e^1$   $e^2$  and the cap or plate  $e^3$ , having two curved grooves  $e^6$  formed in the lower side to receive and guide the two guard pins  $e^5$  attached to the plate  $e^1$  with each other, substantially as herein shown and described and for the purpose set forth.

Second, the combination and arrangement of the adjustable latch F and weighted operating lever G with each other and with the front vertical bar of the gate, substantially as herein shown and described and for the purpose set forth.

Third, the combination of lever H with the weighted lever G and latch F, and with the upper part of the gate, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the adjusting screw I and nut J with the lower part of the weighted lever G, and with the front vertical bar of the gate, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of one or more movable latches K and pivoted drops L with each other and with the post B, substantially as herein shown and described and for the purpose set forth.

**66,833.**—WM. S. HAIGHT, Waterford, N. Y.—*Process of "Hopping" Beer, Ale, &c.*—July 16, 1867.—The receiver has a semi-cylindrical metallic strainer bottom, and a chamber beneath from which the beer is discharged. Steam is admitted outside the metallic bottom. The hops are placed in the receiver and steeped in hot water before the beer is introduced which is done in successive charges.

*Claim.*—First, the process herein specified of extracting hops by placing the same into an air-tight vessel and applying the beer substantially in the manner herein specified.

Second, applying steam to the hops when the same are contained in an air-tight vessel preparatory to the application of the beer, substantially as set forth.

Third, the process herein set forth of removing the beer from the hops from which the extract has been taken by the application of water, as set forth.

**66,834.**—JOHN J. HARLAN, Cincinnati, Ohio.—*Scrubber and Mop Holder.*—July 16, 1867.—Improvement on the patent of William S. Butler, October 25, 1864. The bight of the scouterhouse scrubber is clamped within the U-shaped groove by a rod whose buttons enter T-slots in the cross bar. The cross bar has spikes on the opposite side for engagement of the mop cloth, which is clamped upon them by a rod.

*Claim.*—First, the holder A, furnished with the T-slots  $c$   $c'$  substantially as described, in combination with the rod B and mop M, in manner and for the purposes as herein set forth and described.

Second, the holder A furnished with the U-shaped groove and the slots  $f$   $f'$  substantially as described in combination with the rod E in manner and for the purposes herein set forth and described.

Third, attaching the mop cloth M and scrubber R to the same holder at the same time by the means and in the manner and for the purposes substantially as herein set forth and described.

**66,835.**—JOSHUA HARRISON, Brooklyn, and GEORGE W. HARRIS, New York, N. Y., assignors to themselves and CHARLES H. HUDSON, New York, N. Y.—*Clothes Wringer.*—July 16, 1867.—The upper

roller is depressed by a spring attached to the upper cross bar. The lower roller is raised when the wringer is in the tub by its bell cranks journal bearings, whose free ends are thrust out by the tub side for that purpose.

*Claim.*—First, the combination in a clothes wringer of a cork roll and a rubber roll, substantially as and for the purpose set forth.

Second, the combination with the cork roll D and rubber roll C in a clothes wringer of the spring F and bar E, substantially as set forth.

Third, the combination with the end pieces A and B, forked at their lower ends, the rolls C and D, and the spring F, of the bent levers H and I, the said bent levers being so constructed and arranged as to accomplish the result set forth, substantially as herein above specified.

**66,836.**—JOSHUA HARRISON, Brooklyn, N. Y., and GEORGE W. HARRIS, New York, N. Y., assignors to themselves and CHARLES H. HUDSON, New York, N. Y.—*Clothes Wringer.*—July 16, 1867.—The spring has a recess at its midlength to receive a projection of the cross bar. Its ends have bearing upon the upper roller boxes.

*Claim.*—First, the combination with the end pieces D and E and rolls A and B of the bar F and spring G, substantially as set forth.

Second, the combination in a clothes wringer with the bar F and spring G of a teat or projection C upon one which fits into a depression in the other to hold said spring in its place, substantially as herein above specified.

**66,837.**—AUGUST HERTHAL, Bridgeport, Conn.—*Knife and Scissors Sharpener.*—July 16, 1867.—The cutters oscillate on the set screw and are by it elamped to any angle required. The spring plate supporting the set screw is attached to a stand.

*Claim.*—First, the plates B B constructed as described, and adjusted by means of the set screws  $a$  between the jaws of the spring plate A, provided with screw  $d$ , as herein set forth for the purpose specified.

Second, the double plates B B, in combination with the rollers  $c$   $c$  set screw  $a$  and support A, all made and operating substantially as and for the purposes herein specified and described.

**66,838.**—B. HILBERT, New York, N. Y.—*Making Centers for Watch Cases.*—July 16, 1867.—The "center" is cast upon a ring made in sections so as to admit of withdrawal from within the "center." This ring has enclosing jaws held firmly thereto by a hinge and a dog. The sectional ring may be upon a mandrel. When cast, the "centers" are strung alternately with washers upon a mandrel which is rotated. The circular cutters upon an eccentric spindle are brought in contact with the "centers" to turn the outsides. The "centers" are then elamped within a bisected rotating shell and dressed out by cutters mounted similarly to the former.

*Claim.*—First, the mold for casting the "centers" of watch cases when formed of the hinged jaws A, in combination with the sectional ring B and case C, all made and operating substantially as herein shown and described.

Second, the device for finishing and smoothing the outside of the centers, consisting of the sliding and revolving shaft D, in combination with the eccentric shaft H and cutters I, all made and operating substantially as herein shown and described.

Third, the device for smoothing and finishing the inside of the centers, consisting of the revolving cylinder J, in combination with the eccentric sliding shaft L, and cutters N, all made and operating substantially as herein shown and described.

Fourth, the revolving shell or cylinder J, made of two pieces hinged together and provided with grooves  $l$  around its inside, and otherwise constructed substantially as set forth.

**66,839.**—ISRAEL HOGELAND, Lafayette, Ind.—*Washing and Wringing Machine.*—July 16, 1867.—The wool is passed upon an endless apron between the lower fixed and upper spring rollers, which are all geared together. Above the vacancies between the rollers are transverse pipes, slotted beneath, to throw jets of water upon the material passing through.



*Claim.*—The combination of the rollers *b b b*, &c., and *b' b' b'*, &c., with the endless apron *h*, the gearing of the cog wheels *C\* C'*, of the springs *d*, and thumb screws *e*, together with the perforated slotted pipes *l l l*, &c., the apron *h*, and rollers *g g*, all operating substantially as set forth and described for the purpose.

**66,840.**—BENJAMIN D. HOWE, Hanover, N. H.—*Device for Preventing Horses from Biting and Crib Biting.*—July 16, 1867.—The muzzle is to prevent biting the manger, but allow the horse to pick hay.

*Claim.*—A muzzle of suitable material, constructed with bands of metal, with an opening *a a' b b' c c'*, used in the manner and for the purpose set forth.

**66,841.**—C. G. HOWELL, Corning, N. Y.—*Apparatus for Distilling and Refining Petroleum.*—July 16, 1867.—The crude petroleum is first passed into a retort within the combustion chamber of the steam boiler, and from that passes into a retort within the boiler. From the latter the vapor passes to the condensing worm. The residuum is withdrawn from the retorts by cocks.

*Claim.*—Distilling, refining, and producing petroleum and other liquids by the direct action of heat to the heating vessel *D*, and by the action of steam on a retort in a steam boiler, substantially as shown and described.

**66,842.**—F. M. HUBBARD, Ripon, Wis.—*Dish Holder.*—July 16, 1867.—The rubber covered jaws are separated by the depression of the upper lever by its thumb rest, and are brought together by the pressure of the spiral spring.

*Claim.*—The combination and arrangement of the handle *I* and lever *P*, provided with jaws *B B*, enveloped with rubber bands *S S*, and spiral spring *S*, for keeping the jaws in position to secure the dish when used in the manner and for the purposes specified.

**66,843.**—HUGH HUGHES, Utica, N. Y.—*Door Spring.*—July 16, 1867.—The plate is attached to the lintel and has a horizontal flange, which gives pivot bearing to an arm of india-rubber, and to a curved lever which is pivoted to the end of the rubber at midlength, and to the door at its free end. When the door is opened the rubber is drawn around the curved part of the lever and tends to reclose it.

*Claim.*—The construction and arrangement of the door spring above set forth and described.

**66,844.**—F. W. HUPPELSBERG, New York, N. Y.—*Loom.*—July 16, 1867.—The upper conical take-up roller has a horizontal upper surface, and has positive motion from the oscillation of the lathe, being connected therewith by a cord, lever, pawls, and train of ratchet and cog gearing. The lower roller is held by its weighted journal arms in contact with the upper one, and is actuated by friction therewith. The warp bobbin journals are received in inclined slots of the longitudinal bars of the horizontal warp frame, which is hinged for folding up the loom frame when unused.

*Claim.*—First, the conical or taper take-up rollers *J K*, constructed and arranged substantially as shown.

Second, the horizontal warp spool frame *A*, in combination with the conical take-up rollers *J K*, substantially as shown.

**66,845.**—WILLIAM W. HUSE, Brooklyn, N. Y.—*Machine for Compressing and Cutting the Filling for Cigars.*—July 16, 1867.—The tobacco is placed in a trough bottomed with an endless apron, which carries the filling through the steam-heated passage and then to the grooved rollers, which reduce it to cylindrical form. From the rollers it passes to the V-formed cutters. For making plugs the tobacco passes from the heater to rollers, which reduce it to long strips from which the plugs are cut. The surfaces of the pressure rollers are lubricated by jets of steam.

*Claim.*—First, the treatment of the filling for cigars and plug tobacco by passing it through a steam jacket on its way to be compressed and cut, substantially as described and for the purpose set forth.

Second, the combination of the steam jacket and endless apron with the compressing wheels and V-shaped cutters, substantially as described.

Third, the combination of the steam jacket and endless apron with the cutting and compressing wheels and straight cutters, substantially as described and for the purposes set forth.

Fourth, the combination of the steam jet with the cutting and compressing wheels, as and for the purpose described.

Fifth, cutting the compressed filling into the proper lengths for cigars, and giving to one end of each length so cut the proper taper to form the tip when wrapped by means of the revolving V-shaped cutters, arranged substantially as herein described.

**66,846.**—G. W. HYATT, Auburn, N. Y.—*Hopple.*—July 16, 1867.—When placed on the animal's leg the hook is passed through the hasp and the links slipped past the point of the hook while in a vertical position.

*Claim.*—First, the combination of the bow *A*, hook *C*, and hasp *D*, when all are arranged and operated substantially in the manner and for the purposes above set forth.

Second, the combination of the swivel joint *F* with the link *E*, having one of its sides bent, as and for the purpose substantially as above specified.

**66,847.**—A. S. JACOBS, St. Louis, Mo.—*Oar.*—July 16, 1867.—The inner ends of the oars are connected to the outer ends of the levers so that the rower can face forward.

*Claim.*—The construction and arrangement of the oar *A*, pivoted at *a* to the gunwale of the boat, its inner end provided with ferrule *b*, pivoted to the connecting rod *C* extended diagonally across said gunwale, whose outer end is pivoted to the ferrule *d* at the outer end of the short lever *B*, which is pivoted to the row-locks *c*, as herein set forth, all operating independently of the oar on the opposite side of the boat, as herein set forth for the purpose specified.

**66,848.**—PLINY JEWELL, Jr., Hartford, Conn., assignor to P. JEWELL & SONS, same place.—*Rubber-coated Rubber Belting.*—July 16, 1867.—The leather is washed with a solution of oxalic acid, to insure adherence of the rubber, and is then dried; the strips of rubber are clamped thereto and subjected to a temperature of 230° Fahrenheit for 3 or 4 hours.

*Claim.*—A new article of manufacture, a gum-coated leather belt, substantially as and for the purpose described.

**66,849.**—JAMES JOHNSON, Northampton Co., N. C.—*Spring for Bed Bottoms.*—July 16, 1867.—The supporting disks are linked together and sustained on rods connected by their lower ends to spiral springs within guide cylinders.

*Claim.*—The arrangement and combination of the circular top *A*, links *K*, braces *B* and *C* with the vertical rod *D* and spring *E*, operating in the tube *F*, as herein described and for the purposes set forth.

**66,850.**—SAMUEL W. JONES, Bluffton, Ind.—*Pruning Shears.*—July 16, 1867.—The movable blade is adjustably connected to a lever pivoted on an adjustable collar on the staff, and the end of said lever is connected to a hand lever.

*Claim.*—First, the pruning shears above described having the fixed blade *A* attached to the staff *C*, and operating in combination with the movable blade *A'*, the connecting rods *e e*, and the levers *D* and *H*, substantially as and for the purpose described.

Second, the movable lever *D* pivoting in a sliding thimble *F* on the staff *C*, and having the holes *m m m* by which its power may be adjusted, substantially as and for the purpose specified.

**66,851.**—CHARLES KEAN, Hollidaysburg, Pa.—*Extension Slide for Tables.*—July 16, 1867.—The slides are made of a center, cap, and base piece put together and attached so that the tongues engage the grooves and slide longitudinally till arrested by the stops.

*Claim.*—The grooved centers, caps, and bases put together in the manner and form set forth for the purpose specified.

**66,852.**—ELIJAH KEMPER, Thornville, Ohio.—*Gate.*—July 16, 1867.—The gate slides on anti-friction rollers and is held in equilibrium by the tilting latch till it balances on the rotary post, when the latch



drops beside the gate and the gate and post swing round.

*Claim.*—The combination with a sliding gate of the tilting latch I, constructed and operating as hereinabove set forth.

**66,853.**—ABRAHAM KIPP, Jr., Sing Sing, N. Y.—*Machine for Grinding the Runners of Skates.*—July 16, 1867.—The loose skate-holder and the table have each a plane or bevel-bearing surface, forming, when resting on each other, two corresponding plane or bevel surfaces. The rotary grinding wheel dresses the running edge of the blade. The holder is attached with adjustable clamps, and has rests for securing the work.

*Claim.*—First, the combination with a grinding wheel or stone and loose holder to the work having a bevel-bearing surface as described, a bed or table on which said holder rests and over which it is moved, hinged or made adjustable to vary its angle relatively to a horizontal position, essentially as herein set forth.

Second, the loose or free holder D, forming a base or bearing plane provided with adjustable clamps E, and rests H, for securing and supporting the work, all constructed and arranged substantially as specified.

**66,854.**—J. A. KISSELL and N. BLICKENSDEFFER, Chicago, Ill.—*Corrugated Lightning Rods.*—July 16, 1867.—A flat, continuous strip of pure, cold-rolled copper is corrugated longitudinally to form a conductor.

*Claim.*—A lightning conductor consisting of a continuous flat strip, corrugated longitudinally as herein shown and described.

**66,855.**—P. KLEPPER, Centralia, Ill.—*Egg Beater.*—July 16, 1867.—The beater is secured to a shaft to which a rapid rotary motion is imparted by the gear-wheels connecting with a hand crank.

*Claim.*—The arrangement of the beater A, in combination with the stand C, supported by legs d, substantially as and for the purpose described.

**66,856.**—B. I. LANE, Framingham, Mass.—*Scrubbing Utensil.*—July 16, 1867.—Transverse bars and conical projections of caoutchouc form the rubbing surface of the brush. Flanges of the caoutchouc bed embrace the block of the handle.

*Claim.*—A scrubbing brush or utensil the friction surface of which is composed of a caoutchouc or equivalent elastic material and abrasive powder combined together substantially as set forth.

Also, forming the friction surface of a scrubbing brush or utensil of alternate rows of bars and teats or points of caoutchouc or equivalent elastic material or compound, substantially as shown and described.

Also, forming the rubbing surfaces as projections from a rubber block c into which the handle block a is inserted, substantially as shown and described.

**66,857.**—DANIEL LEE, Boston, Mass.—*Globe Valve.*—July 16, 1867.—The valve and the screw which actuates it are placed on the side of the diaphragm most remote from the stuffing box or the protruding end of the valve spindle.

*Claim.*—The arrangement of the valve and the screw which moves it with relation to the diaphragm, stuffing box, and plug l, substantially as and for the purpose described.

**66,858.**—C. L. LOCHMAN, Carlisle, Pa.—*Box for Indelible Ink, &c.*—July 16, 1867.—The paper sides rest in rabbets of the wooden top and bottom.

*Claim.*—First, as a new article of manufacture a pasteboard box with wooden top and bottom, constructed substantially as set forth.

Second, the use of an elastic band or stretcher made of any suitable material in connection with said box, for the purpose specified.

**66,859.**—A. W. LOCKHART, Sacramento, Cal.—*Grain Separator.*—July 16, 1867.—To equalize the draft through the shoe the fans are adjustably regulated on the fan shaft, and the draft passes through a blast chamber that has curved-pivoted adjustable boards above and below.

*Claim.*—First, adjustably attaching the fans to the

fan shaft so that they may be set at any desired angle, substantially as herein shown and described.

Second, the combination of the fan boards D, jointed arms C C, and curved arms E, or equivalent, with each other and with the fan shaft B, substantially as herein shown and described.

Third, the combination of the curved adjustable blast boards I and J with the air chamber A, blast chamber K, and with the shoe of the machine, substantially as herein shown and described and for the purpose set forth.

**66,860.**—STEPHEN MAHURIN, Liberty, Ill.—*Drop Press for Pressing Hay and for other Purposes.*—July 16, 1867.—The rope attached to the weight runs over rollers to the stationary drum, round which the lever revolves, winding the rope on the drum till, reaching the top, it slips off and lets the weight drop.

*Claim.*—The revolving drum K, provided on its periphery with a continuous groove k, in combination with the stationary drum H, lever I, rope G, pulleys e e', weight B, and frames A E F, substantially as and for the purpose described.

**66,861.**—A. MAINS, Olenia, Ill.—*Land Roller and Marker.*—July 16, 1867.—The pivoted levers have rollers on their forward end, which, when the lever is raised, engage the ground and support the machine with the main roller above the ground. Beveled rings surrounding the roller mark the rows, and the scraper is pivoted to the rear transverse bar.

*Claim.*—The levers E, pivoted to the side of the frame A, and having the rollers F pivoted to their lower ends, constructed and arranged as described in such a manner that the roller C may be raised above or rest upon the surface of the ground as shown and for the purpose specified.

**66,862.**—MOSES S. MARSHALL, Melrose, Mass.—*Gas Stove.*—July 16, 1867.—The stove is heated by a gas burner, the pipe entering through an air opening. One of the vertical pipes is filled between the gratings with a conducting and refractory material. In the other pipes conical bars and gratings arrest the progress of the heat, which is communicated to the air passages.

*Claim.*—First, the combination of the furnace A, pins B<sup>3</sup>, and gas stove B, when said parts are respectively constructed and arranged to operate substantially as and for the purpose set forth.

Second, the vertical pipe D, when constructed with gratings D<sup>2</sup>, formed by outwardly projecting rods and filled by pieces of soapstone, or other suitable conducting and refractory material, substantially as and for the purposes set forth.

Third, the pipe G, when constructed with internal pipes opening and projecting into the chamber of the stove, substantially as and for the purpose set forth.

Fourth, in combination with the vertical pipes D E F G, all or any of them, the double top plate K and L, arranged substantially as and for the purpose set forth.

Fifth, in combination with the stove plates B, the gas pipe and burner C and flue plate H, when arranged substantially as and for the purpose set forth.

**66,863.**—H. H. MASON and JOSEPH MESSENGER, Springfield, Vt.—*Mop Head.*—July 16, 1867.—The nut is cast upon the ends of the rod which constitutes the movable jaw. Rotation of the nut draws the jaw against the cross-head on the end of the handle and clamps the mop.

*Claim.*—A mop head of the kind specified, having the ends of the wire or rod which constitute the movable jaw E secured to the lugs or ears of the nut D, by inserting the ends of said wire or rod in the mold in which the nut is cast so that the lugs or ears will be cast around the ends of the wire or rod, substantially as shown and described.

**66,864.**—J. W. MAXFIELD, Potsdam, N. Y.—*Crimping Boots and Shoes.*—July 16, 1867.—The clamp has a groove in one of its flanges that engages the projection on the knife, which, with the awl, is firmly held by the set screw connecting the flanges. The socket engages the handle of the pair of shoemaker's pinchers to which it is secured by a thumb screw.

*Claim.*—The arrangement of the knife d and awl e



with clamp *a*, attached to the lower part of pinchers for the purpose specified.

**66,865.**—W. H. MCPHERSON, Danby, N. Y.—*Horse Rake.*—July 16, 1867.—The rake is turned by gearing connecting its driving wheel with the head of the rake, which is engaged or disconnected by the double-action spring lever attached thereto.

*Claim.*—First, the oval revolving head *A*, provided with the groove or grooves *O*, the rod for holding the teeth, and the pressure staples *Q*, as described.

Second, the combination of the lever *F*, made as described, the spring *R*, and the stop plate *L*, substantially as and for the purposes described.

Third, the wheels *B C D* and lever *E*, all constructed and arranged substantially as described.

**66,866.**—BENJAMIN B. MONROE, Jackson, Mich.—*Wagon Brake.*—July 16, 1867.—When descending a hill the ring of the neck yoke presses against a movable sleeve that is connected by a rod with the double-action lever pivoted to the rear of the tongue; this lever, by its connections, draws on the double-action lever brakes and presses them against the wheel.

*Claim.*—The slotted blocks *F F* connected to the bars *E* by the balls *a a*, when arranged with the bar *H* and rod *G*, and operating in the manner substantially as and for the purpose specified.

**66,867.**—FREDERICK MONROE, Charlestown, Mass.—*Flour-Box.*—July 16, 1867.—The rim of the cover is filled with wire-gauze cloth, which leaves no flat surface for the flour to gather upon, as in the case of perforated plates.

*Claim.*—A flour-box having its cover made substantially as and for the purposes described.

**66,868.**—ELISHA MORGAN, Springfield, Mass.—*Mucilage Stand.*—July 16, 1867.—The reservoir mucilage stand has a supply fountain, and a well tube through which to pass the brush. It is intended to preserve the mucilage from atmospheric influences.

*Claim.*—A reservoir mucilage stand having a fountain which connects with and supplies the well, substantially as herein described, in combination with a brush.

**66,869.**—JOHN E. MORGAN, Deerfield, N. Y.—*Harrow.*—July 16, 1867.—The inclined and elongated coupling links allow independent vertical and longitudinal action in surmounting obstructions.

*Claim.*—The construction and use of the sectional harrow with inclined coupling links, as described and for the purposes described.

**66,870.**—THEODORE MUNGER, Cedar Falls, Iowa.—*Gate.*—July 16, 1867.—The gate is supported by its elevated bars, which traverse in the grooves of rollers which have their bearings in the posts. It is capable of vertical adjustment by transference of the roller to the adjoining space.

*Claim.*—First, supporting the gate by its longitudinal rails upon two flanged rollers *C C*, the said rails having their contact edges chamfered or beveled, whereby the gate is made capable of being adjusted in height, as described.

Second, the self-closing catch, in combination with the oblique-ended slat.

**66,871.**—JOHN MURPHY, Albany, Ga.—*Cultivator.*—July 16, 1867.—The beams are laterally adjusted on the transverse bolts, to which they are secured by nuts. The plow standards are attached to the beams and secured with braces above and below. An adjustable wheel in front regulates the draft. A blade with an extension arm is attached for shallow plowing on cotton lands.

*Claim.*—First, the construction of the frame *A*, *B*, and *C*, in combination with the plow beams *F*, secured thereto substantially as and for the purpose described.

Second, the plow *S*, with its arm *Q*, substantially as and for the purpose specified.

**66,872.**—J. W. NEAL, Big Lick, Va.—*Cockle and Garlic Separator.*—July 16, 1867.—The hopper has a small adjustable outlet through which the grain falls on the perforated cylinder and is carried round and swept on the board by the revolving brush. The

cockle drops through the perforations into the cylinder and is carried round till it is discharged at the end into a drawer.

*Claim.*—First, the spindle *C*, with the perforated metal plate *t* and corrugated bar *I*, when constructed and used substantially as herein specified.

Second, the combination and arrangement of the frame *A*, hopper *B*, and cylinder *C*, as constructed, brush *D*, board *E*, and drawer *F*, all operating in the manner and for the purposes specified.

**66,873.**—J. M. NEWTON, Norwich, Conn.—*Door Spring.*—July 16, 1867.—As the door opens it vibrates the rod and the tube which is sleeved upon it. The impingement of the roller on the end of the rod, in the curved track, moves the rod longitudinally and condenses the spring, whose recoil closes the door.

*Claim.*—The combination of the curved bed piece *B*, shaft *F*, rod *I*, spiral or other suitable spring *Q*, and arm *P*, attached to the door, when all combined and arranged together substantially in the manner and for the purpose described.

**66,874.**—W. H. NICHOLS, East Hampton, Conn., assignor to J. H. ABELL, same place.—*Call Bell.*—July 16, 1867.—The vertical movement of the twisted rod within the clapper causes the vibration of the latter; a spiral spring raises the rod after depression.

*Claim.*—The application to gong or call bells of a twisted rod *b*, for the purpose of revolving the clapper *D*, substantially as herein shown and described.

Also, the combination with each other of the tube *B*, bell *C*, clapper *D*, twisted rod *b*, and spring *e*, all made and operating substantially as and for the purposes herein shown and described.

**66,875.**—G. H. OBER, Newbury, Ohio.—*Wheelwright's Machine for Tenoning Spokes.*—July 16, 1867.—The spoke is clamped to the table and fed between the rotary cutters by a transverse movement of the table.

*Claim.*—Arranging two cutters upon a frame in such manner that they can be adjusted to cut tenons of different thicknesses when used in combination with an adjustable table *G* and clamp *P*, all constructed to operate substantially as described.

**66,876.**—E. B. OLMSTED, Washington, D. C.—*Packing Apparatus for Envelope Machines.*—July 16, 1867.—The apparatus receives the envelopes from the carrier, folds the lappel, places the envelopes in packages of the required number, fastens a band around them, and delivers them into a box.

*Claim.*—First, the vertical box *D*, containing the inclined shelf *N*, and the gumming box *E*, and roller *e*, and supporting and guiding the plunging plate *O*, substantially as and for the purpose described.

Second, the horizontal box *B*, containing the plunger *C*, the stops *b b*, the springs *b'' b''*, and the hinged plates *M* and *M'*, substantially as and for the purpose specified.

Third, the sliding box *L*, moving on the end of the box *B*, and having the arms *l'' l''*, the slot *l'*, and the interior barbed arms *t t*, substantially as and for the purpose described.

Fourth, the apparatus for moving, cutting, and gumming the binding tape, consisting of the shaft *G*, with the drum *g'* and ratchet wheel *g*, the tube *H*, the knife *I*, and the ratchet wheel *K* bearing the cam *k*, all arranged and combined substantially as and for the purpose described.

Fifth, the plunger *C*, consisting of two parts *C'* and *C''*, and the spring *e*, and having a face composed of two vertical plates and a wide space between them, substantially as and for the purpose specified.

Sixth, the rod *R*, having the clutch at its extremity in combination with the guide *l* and the slot *l'* in the wall of the box *L*, substantially as and for the purpose described.

**66,877.**—E. B. OLMSTED, Washington, D. C.—*Cutting and Gumming Apparatus for Envelope Machines.*—July 16, 1867.—The paper being placed over the channel, the cutting and gumming instrument descends, the paper holders first coming in contact with the sheet to hold it in position, and the gumming surface being applied. As the holder recedes, the knife is exposed, and cuts the envelope out of the sheet. A descending plunger drives it through the



aperture in the bed, ereasing it upon the folding lines.

*Claim.*—First, the channel B, having cutting edges acting in combination with the knife I, substantially as and for the purpose specified.

Second, the cutting and gumming instrument D, having the movable plates L L, with gumming beds U U, the knife I, and the metallic paper-holding strip K, substantially as and for the purpose specified.

Third, the combination of the plunger E, the cutting and gumming instrument D, and the table A, substantially as and for the purpose described.

**66,878.**—E. B. OLMSTED, Washington, D. C.—*Folding and Printing Bed for Envelope Machines.*—July 16, 1867.—The bed upon which the envelope is folded is adjusted upon springs, which permit it to be depressed until the envelope comes in contact with the printing form. The motion of the bed is regulated for the economical cutting of the paper and the proper delivery of the envelopes to a carrier.

*Claim.*—A triple bed H, composed of the plates h h', connected as shown, supported and guided by the shaft B, and actuated by the arm G', substantially as and for the purpose described.

**66,879.**—L. H. OLMSTED, Stamford, Conn.—*Drop Hammer.*—July 16, 1867.—By means of a clutch, the loose pulley is engaged with, or disengaged from, the driving shaft to raise the hammer or let it fall. An elliptical pin is journaled in an arm keyed to the shaft, and works in an annular groove in the side of the pulley. In one position of the pin it will bite between the walls of the groove and hold the pulley fast, and when turned on its axis it will release it.

*Claim.*—The combination of the friction driving pulley I and shaft D with the devices for engaging and disengaging the one from the other, consisting of the weight F, the upright shaft J, provided with the arms L L', the bar K attached to an arm n on the upper end of said shaft, and the sliding collar m on the shaft D, all arranged to operate in combination with a friction clutch pulley, substantially as set forth.

Also, the ratchet G and pawl H, in combination with the mechanism set forth in the first clause of claim, substantially as and for the purpose described.

**66,880.**—CHARLES W. PACKER, Philadelphia, Pa.—*Hat Box.*—July 16, 1867.—The box has the usual lid, and in the center has a pillar to receive the hat in its natural position. A flap lets down in front to enable the hat to be readily reached.

*Claim.*—First, a box A, having a vertical opening x and a leaf b, a central standard C, and lid B, all being constructed and arranged substantially as and for the purpose herein set forth.

Second, the combination of a box constructed as above described and a standard or pillar C, made hollow and furnished with a cover, as and for the purpose described.

**66,881.**—FRANKLIN B. PARKS, Cambridgeport, Mass.—*Folding Lunch Box.*—July 16, 1867.—The box has top, bottom, ends and sides, and certain hooks hinged to the top plates. The side plates are hinged to the bottom and may be laid flat upon it. The end plates are hinged to the side plates and turn down flat against them. When turned into a position to form a box, the parts are held by hooks and by the shutting of the lid.

*Claim.*—The arrangement of the flanges of the box, bottom, sides, and ends with such bottom, sides, and ends connected in manner and so as to be capable of being folded together, as explained, each end plate under such an arrangement being hinged on one of the side plates.

Also, the arrangement of the flanges of the box top with the said top and with the bottom, sides, and ends, connected together in manner so as to be capable of being folded together, as described.

Also, the arrangement of the hooks and their receiving holes with the top, the bottom, sides, and ends of the box, connected in manner and so as to be capable of being folded together, as set forth.

Also, the combination of the recesses of the sides with the bottom, sides, and ends, connected substantially in manner and so as to be capable of being folded together as explained.

**66,882.**—D. H. PETERSON, Terre Haute, Ind.—*Wagon Box.*—July 16, 1867.—The end and side boards are connected by grooved and flanged irons. Catch bars attached to the side boards take over the projections of strap irons upon the bottom bars.

*Claim.*—First, the grooved and flanged irons G and H, in combination with the end and side boards C and B of the wagon box, substantially as herein shown and described and for the purpose set forth.

Second, the irons F and E, constructed substantially as herein shown and described, in combination with the side boards B and bottom bars D of the wagon box, as and for the purpose set forth.

**66,883.**—JAMES D. PRATT, Cleveland, Ohio.—*Bed Lounge.*—July 16, 1867.—The head of the lounge has a hollow interior whose lid has an inclined upper surface and a sunken recess to contain springs to make an elastic head rest. The hollow contains bed clothes. Above the lid is a head piece whose upper surface, when folded, forms a part of the upholstered sofa, and its other side, when expanded, is an extension head rest adapted to the extension bed which is formed by folding the seat over outwardly, the surfaces then exposed having springs for a bed bottom.

*Claim.*—First, the hollow safe or drum-head receptacle D, provided with the sunk depression or recess C, and lid F', inclined folding head G, provided with the sunk depression or recess H', drop leg L, and flap N, all combined, arranged, and operating in combination with the permanent head and folding seat of the lounge, substantially as and for the purposes herein set forth.

Second, the employment and use of the springs C<sup>1</sup> and C<sup>2</sup>, located over the openings B B' of the frames A and A', and operating as and for the purpose specified.

**66,884.**—JOHN C. RHODES, South Abington, Mass.—*Drop Press.*—July 16, 1867.—To avoid a rebound blow the drop is so arranged that it must be raised again a certain height before it can get clear of the pawl. The stud on the drop in rising throws the pawl out of engagement and permits a drop; and in falling the same stud sets the pawl to catch a rebound.

*Claim.*—The drop C, provided with a ratchet bar a and with a projecting stud b, in combination with the double-armed pawl c and spring d, all made and operating substantially as herein shown and described.

**66,885.**—JOHN RICHARDS, Cincinnati, Ohio, assignor to J. A. FAY & Co., same place.—*Wood-turning Lathe.*—July 16, 1867.—The tubular tail stock receives a bit for boring handles, and where a true central hole is required. It is moved longitudinally by a rack and pinion. A recess in the tail stock affords position for the bolt attaching the stock to the lathe bed.

*Claim.*—First, the combination of a tubular tail stock with a rack and pinion for moving the same, arranged and operating in the manner and for the purposes specified.

Second, the recess or rectangular extension of the bow in the tail stock shown at a, formed in the manner and for the purposes explained.

**66,886.**—L. V. RICHMOND, Brainard, N. Y.—*Stop Motion for Warping Machine.*—July 16, 1867.—Within the sliding box is a flanged cylinder connected to another horizontal shaft, which receives its motion from a pulley and imparts it to the cylinder by a clutch. When the cylinder is stopped by an obstacle coming in contact with one of its flanges, the clutch shaft is disengaged from the cylinder and operates a belt shifter. The threads pass through the loops, the central ones are drop wires, each of which is held up by the tension of its threads, and falls when the latter breaks, arresting the motion.

*Claim.*—First, the construction and arrangement in the sliding box G of the cylinder H, with flanges h', upon which the hooks i rest in such a manner that their eyes shall be above the upper plate of the said box, whereby the threads are easily adjusted, as herein shown and described.

Second, the sliding box G, provided with the flanged shaft H, having the fixed clutch K and sliding cogged clutch l U, in combination with the pinion m, horizontal shaft m' and pulley o', arranged and operated



by means of the band *o* from the shaft B, substantially as and for the purpose herein shown and described.

Third, the stationary box G', with its appendages, consisting of the flanged cylinder H, sliding clutch *l* having arm *z*\*, sliding plate *z'*, springs *z''* and *r*, latch *s*, horizontal sliding bar *t*, having staple *w* and spring *n*, operated from the shaft X by means of the cord *o*, substantially as herein set forth.

Fourth, the plate R, for sustaining the drop wires *i*, and operating substantially as herein shown and described.

Fifth, the cord *n*, for the purpose of transferring the motion from the forked sliding bar *m''* to the spring *r*, substantially as herein shown and described.

Sixth, the combination of the forked bar *m''* with the pins *q q* and cord *n*, substantially as and for the purpose herein shown and described.

**66,887.**—LEWIS F. RIDER and JOHN W. FERRY, Hornellsville, N. Y.—*Well Tubing*.—July 16, 1867.—A slotted section carrying the point is covered by a sleeve connected thereto by a bayonet joint. The sleeve has radial ribs to engage the earth and enable detachment when required, to uncover the slots and allow ingress to liquid.

*Claim.*—The point A, as constructed with its projecting cutting edges *a a a*, on the underside combined with the lower end of the tube C, with its steel pin *d*, to hold the barrel or shield D on the outside of the pipe while being driven, substantially as herein described for the purposes set forth.

**66,888.**—GEORGE ROBINSON, Detroit, Mich.—*Piston Packing*.—July 16, 1867.—The rings have sufficient play in the annular groove of the piston and the steam is admitted behind to expand them: at other times the metallic spring expands the central packing ring. The entrance of steam on one side of the piston head closes the rings against the apertures on the opposite side.

*Claim.*—The packing ring D, constructed as described, in combination with the rings E and F, arranged so as to close the holes *a a'* alternately to the steam passing beneath the ring D, pressing it out, as herein set forth for the purpose specified.

**66,889.**—O. L. ROBINSON, Owasso, Mich.—*Cherry Stoner*.—July 16, 1867.—The lower plate has cavities to receive the cherries and the upper plate has cavities from whose centres depend concave-ended pins to force the stones through central holes in the cavities of the lower plate as the latter is raised by a rack lever.

*Claim.*—First, driving the stones at once out of a number of cherries by means of a series of punches *m*, which are made to pass through the cherries, the latter being placed upon a plate D, which is provided with perforated countersinks, substantially as and for the purpose herein shown and described.

Second, the plates D and E, when made as described, in combination with the frame A, and lever C, all made and operating substantially as herein shown and described.

**66,890.**—HENRY ROTHFELDER, New York, N. Y.—*Watch*.—July 16, 1867; antedated June 11, 1867.—The ends of the ring spring into sockets on the sides of the key to retain it. It can be removed from its position to wind the watch.

*Claim.*—First, fitting a watch key in the handle of a watch case and retaining it therein by a suitable catch or fastening, substantially as described, so that said key is not liable to drop out spontaneously but can be taken out and used like an ordinary watch key.

Second, the sleeve *d*, in combination with the key C, handle B, and spring *f*, substantially as and for the purpose set forth.

**66,891.**—EMERY W. ROWLEY, Jr., Antwerp, N. Y.—*Pea Rake*.—July 16, 1867.—The toothed cutter on the rake head cuts off the vines which the rake has gathered.

*Claim.*—Providing a pea rake with a serrated or toothed cutter D, substantially in the manner and for the purpose herein shown and described.

**66,892.**—JULIEN S. ROWLEY, Chateaugay, N. Y.—*Clip for Clothes Lines and for other Purposes*.—July 16, 1867.—The side clamps are pivoted to the

central piece and are made to clasp the line by oscillation on their pivot.

*Claim.*—The improved clip for clothes lines formed of the side clamps B B, riveted to the center piece A, arranged and operating as herein described.

**66,893.**—SAMUEL SELDEN and W. J. F. LIDDELL, Erie, Pa., assignors to JOHN C. SELDEN, same place.—*Hinge*.—July 16, 1867.—The stop midway of the barrel keeps the pintle from falling through.

*Claim.*—The stop in the barrel of the loose-jointed reversible door hinge, constructed as specified and for the purposes set forth.

**66,894.**—D. P. SHARP, Ithaca, N. Y.—*Horse Rake*.—July 16, 1867.—The teeth are connected to a lever by which they are raised, the clearing bars are bent up to more easily clear the teeth. Stud on an oscillating bar traverse a portion of the rake teeth to dislodge the hay from them when they are raised.

*Claim.*—First, the spurs *e*, arranged upon the bar C, in combination with the rake teeth B', and clearing spurs *i* on the bar F, operating substantially as herein set forth for the purpose specified.

Second, the lever D, rod *g*, and spurred bar C, arranged in relation with each other and with the spurred bars F, bars E', and standards E, substantially as herein set forth for the purpose specified.

**66,895.**—F. MARION SHIELDS, Macon, Miss.—*Cotton Plow or Cultivator*.—July 16, 1867.—The triangular, convex, side-plated hoes are attached by stocks to a horizontal beam, to whose tongue a team is attached.

*Claim.*—First, the hoes D *d d'*, when constructed in the manner and for the purpose herein described and represented.

Second, the combination of the hoes D D D, beam A, shanks or stocks E E, draft tongue or beam B, and handles C C, all arranged substantially in the manner and for the purpose set forth.

Third, in combination with the above the fenders F F, applied in the manner and for the purpose set forth.

**66,896.**—C. SHORTAN, New York, N. Y., assignor to T. W. BRACHER, same place.—*Wire Twisting Machine*.—July 16, 1867.—The band or wire is stretched the length of the machine, being held in the slotted standards and their intervening slotted pinions. The latter being revolved by the sector-wheels, which are oscillated by a treadle, the revolution of the pinions twists the wire.

*Claim.*—The construction and arrangement of the slotted standards D, and standards G, upon the bed piece B, slotted pinions H, sector-shaped gear wheels I, attached to the rock shaft J, hung in bearings K, crank arms L P, spring O, wire M, and treadle N, substantially as described for the purpose specified.

**66,897.**—GUSTAV A. SIEGLE, Brooklyn, N. Y.—*Manufacturing Carmine*.—July 16, 1867.—Explained by the claims.

*Claim.*—First, treating cochineal with water, bicarbonate of ammonia, alum, cream of tartar, acetic acid, egg and spirits of wine, for the purpose of extracting pure carmine, substantially as herein set forth.

Second, treating cochineal with water, crystallized soda, alum, cream of tartar, and spirits of wine, substantially in the manner herein set forth, for the purpose of extracting pure carmine.

Third, treating the carmine contained in the liquor which is drawn off, the pure carmine, with tartaric acid, substantially as and for the purpose herein shown and described.

Fourth, treating the refuse cochineal from the first and second process above described, with soda and boiling it, substantially as set forth, for the purpose of producing liquid lake.

Fifth, heating the refuse cochineal from the fourth process and treating it with soda and prussian blue, for the purpose of producing a violet color.

Sixth, heating the refuse cochineal from the fourth process and treating it with soda, starch, and alum, for the purpose of producing a purple color.

Seventh, treating the refuse cochineal from the fifth and sixth processes by placing it below the surface of



the earth in a well-covered box, substantially as and for the purpose herein specified.

**66,898.**—SAMUEL A. SIMSON, Earlville, Ill.—*Ticket Holder*.—July 16, 1867.—The spring clasp grasps the check, and the prongs of the holder attach it to the coat.

*Claim.*—A ticket holder, made substantially as described, for the purpose specified.

**66,899.**—FERDINAND SIMS, Galveston, Texas.—*Book Sewing Machine*.—July 16, 1867.—The folded sheets, forming a section, are sewed together by a continuous thread which is passed around rods to form loops which are subsequently withdrawn, and parchment bands substituted when it is ready for binding. The several devices cannot be briefly described.

*Claim.*—First, a machine for sewing books, made and operating substantially as herein shown and described.

Second, the manner of preparing the sections of paper with notches, slots, and slits at the ends, &c., substantially in the manner and for the purpose herein shown and described, and the use of sections prepared.

Third, the combination of the cross-head  $b^2$ , screw  $b'$ , and board  $b$ , with the tablet  $B$ , for the purpose of forming a press or clamp, operating substantially as herein shown and described.

Fourth, the needle bar  $D$  and its combination with the eccentric  $d^2$ , plate  $d^2$ , and needle holders  $f$ , all made and operating substantially as herein shown and described.

Fifth, the slotted needle holders  $f$ , and springs  $f^2$ , constructed and operating substantially as herein shown and described.

Sixth, the pedal arrangement  $E$ , when combined with the levers  $e$ , and needle bar  $D$ , substantially in the manner and for the purpose herein shown and described.

Seventh, the slotted guide plates  $h$ , made and operating substantially as herein shown and described.

Eighth, the application of the cords  $i$ , and the manner of holding the same in place, substantially as and for the purpose herein shown and described.

Ninth, the slotted key plate  $l$ , made and operating substantially as herein shown and described.

Tenth, the needles  $G$   $g$   $g^1$  and  $g^2$ , made and employed and operating substantially in the manner herein shown and described.

Eleventh, the needles  $g^3$  and  $g^4$ , when applied for the purpose herein shown and described.

**66,900.**—R. W. SMITH, Tippecanoe, Ohio.—*Bridge*.—July 16, 1867.—The inclined posts pass above the chords beneath the sills, and are attached to the same by bolts. The braces cross one post at mid-height and abut against the bottom of one post and the upper end of the next but one. The floor may be laid on cross-ties of the sills or chords.

*Claim.*—First, a bridge constructed with inclined posts  $C$   $C$ , in combination with the braces  $D$   $D$ , resting squarely against the sides of the posts, and arranged in relation to the sills and chords, substantially as described.

Second, in combination with the inclined posts and braces as described, the vertical central posts  $C^2$ , and braces  $D$   $I$ , substantially as described.

**66,901.**—MYRON H. SPAULDING, Morrisville, Vt.—*Churn*.—July 16, 1867.—The gearing of the two dashers is supported between two plates. The shafts of two cog-wheels of various sizes are furnished with rectangular ends for attachment of the winch to vary the speed.

*Claim.*—The construction of the plates  $C$  and  $E$ , forming a metallic box containing changeable gearing  $G$  and  $K$ , when arranged and combined with double beaters, as herein described and for the purposes set forth.

**66,902.**—CHARLES F. SPENCER, Rochester, N. Y., assignor to himself and CHARLES W. BARKER, Irondequoit, N. Y.—*Lantern*.—July 16, 1867.—The globe is passed through the top of the guards when the cap is off. Two or more of the guard wires project and are bent inward to form bearings which engage the eyes on the cap to secure the parts together.

*Claim.*—The arrangement herein described for fastening the cap to the guards, consisting of the bearings  $b$ , formed by bending projections of the guard wires concentric with the guard ring, in combination with the eyes  $g$ , on the under side of the cap for sliding over the bearings, and the flange  $f$ , or equivalent, for centering the cap, the whole operating substantially in the manner and for the purpose herein set forth.

**66,903.**—CHARLES E. STEARNS, Boston, Mass.—*Stair Rod*.—July 16, 1867.—The stair rod tapers from the middle toward the ends, which engage an eye and a hook respectively.

*Claim.*—The combination and arrangement of the hook and eye and the double tapering spring bar, provided with shoulders and studs, as set forth.

**66,904.**—DAVID D. STELLE, New Brunswick, N. J., assignor to himself and THOMAS E. McDONALD, same place.—*Combined Planter, Harrow, and Cultivator*.—July 16, 1867.—The rotating harrow is changeable into a cultivator by replacing the teeth with hoes, and is actuated by gearing from the supporting wheel. The corn dropper has slots in its sides, allowing the free passage of the cut-offs that regulate the dropping of the corn, and which are actuated in connection with the spiral spring by the cam-rod engaging with the cams on the axle.

*Claim.*—First, the corn-dropper and mode of cutting off the required amount of grain to be dropped, substantially as described.

Second, the revolving harrow made and operating in combination with the stationary harrow, in the manner and for the purpose substantially as described.

Third, the revolving hoes, set in similar manner, to be used in place of the harrow when required as a cultivator.

**66,905.**—WILLIAM F. STILLMAN, Ilion, N. Y.—*Machine for Rolling Hoes*.—July 16, 1867.—The frame has horizontal ways for the carriage that carries the rollers, and the latter traverse upon the anvil block that is vertically adjustable beneath, to graduate the thickness of the article rolled. The carriage is moved by a pitman from a crank on the driving wheel.

*Claim.*—First, a stand or frame with horizontal ways for the carriage that carries the rollers, and perpendicular ways for the anvil block, and a bed for the screw that raises the anvil block, the whole being constructed and arranged substantially as described.

Second, in combination with the subject matter of the first claim, the carriage  $J$ , with one or more rollers and the vertical adjustable anvil  $E$ , substantially as and for the purposes set forth.

**66,906.**—ANTOINE ST. LOUIS, Keeseville, N. Y.—*Machine for Making Spikes*.—July 16, 1867.—The nail bar is placed upon the slide, is caught by the gripper and fed to the anvils by a spring. After being worked between one anvil and the hammer which draw and shape the nail, it is moved to a second anvil, where it is pointed and planished, and is then cut off by a knife. The second anvil then retires, to allow the nail to drop. Ledges are formed in the anvils corresponding respectively to the shape and size of the blank and nail required.

*Claim.*—First, the arrangement of the moving anvils  $K$  and  $L$ , the slide hammers  $H$   $H'$ , with its hammers  $E$  and  $F$ , the latter being provided with a roller face, as and for the purpose set forth.

Second, the combination of the slide  $W'$  and gripper  $W$  with the ways  $V$   $V$ , lever  $U$ , and cam wheel  $S$ , substantially as and for the purpose set forth.

Third, the combination of the knife or cutter  $\alpha$  with the anvil  $K$  and hammers  $E$  and  $H$ , substantially as represented.

**66,907.**—JOHN H. STONE, Philadelphia, Pa.—*Coal Stove*.—July 16, 1867.—The air passes through an annular chamber outside the fire-pot through pipes to a concavo-convex chamber over the same. The chamber has perforations by which the air passes down to the fire. The caloric current passes up an annular chamber, down a diving flue, and upward through an elbow to its exit.

*Claim.*—The extended flange  $e'$  of the fuel pot  $E$ ,



in combination with the tubes L L L L, retort K and air spaces G and H, communicating with the external air through the base A B, the said parts being arranged to operate together as described for the purpose of supplying and heating fresh air for the combustion of the inflammable gases arising from the burning fuel in the fuel pot E.

Also, in combination with the retort K, having tubes L, connecting with hot-air space G around the fire-pot, the cylinder M, and the escape pipe o, arranged within the upper part of the body C D of the stove, substantially in the manner described, for the purpose of diffusing the heat more effectually over the said body of the stove, and also for increasing the draft of the latter, as specified.

**66,908.**—GEORGE C. SWEET, Norwich, Conn., assignor to himself and FRANK DOUGLAS, same place. — *Screw Plate.* — July 16, 1867. — The frame which holds the dies is made in two hinged portions, which permit it to be opened to receive dies.

*Claim.*—A screw plate made in two parts and pivoted together by pivots A A, for the purpose of tilting one half of the plate down for the removal or reception of dies, as herein specified.

**66,909.**—ALBERT L. TAYLOR, Springfield, Vt. — *Pastry Roller.* — July 16, 1867. — The rollers are pivoted in a frame.

*Claim.*—An implement for rolling pastry, composed of a plurality of rollers fitted in suitable end pieces or bearings, or any proper stock, substantially as shown and described.

**66,910.**—S. J. TAYLOR, Rome, N. Y. — *Combined Corn-Planter and Cultivator.* — July 16, 1867. — The plows are regulated by a roller in front and rear. The seed measure holds the quantity for one hill, and fills itself at each engagement with the seed box, sliding out to deposit the seed. It is followed by the covering hoes attached to the cross-beam.

*Claim.*—First, the vertical slide K, operated by the spring L, substantially as and for the purpose specified.

Second, the covering teeth d d, having faces inclined inward and backward, and attached to the cross-beam D, substantially as and for the purpose described.

Third, the hinge by which the wings C C' and the cultivator bars O O' are jointed to the plow A, composed of the jaws m m, clasping the bolts n n, substantially as and for the purpose specified.

Fourth, the combination and arrangement of the plow A, the draw-beam B, the seed-box P, together with the wheel G for operating it, the wings C C', the cross-beam D, having its covering teeth d d, the adjusting bars E E', and the cultivator bars O O', all constructed and operated substantially as and for the purpose specified.

**66,911.**—D. C. TELLER, Terre Haute, Ind. — *Steak Broiler.* — July 16, 1867. — The frame is placed on a stove hole. The upper edges of the steaks are impaled on the vertical pointed wires above the stove hole, and hang down on their outer sides. An inverted conical cap deflects the heat. Slices of bread are leaned against the pins, their lower edges on the outer ring.

*Claim.*—The vertical position in which the steaks are placed over the fire, and the arrangement of the vertical rods E E, all substantially inclosed with the cap C, as specified, for the purposes in the specification.

**66,912.**—M. L. and R. W. THORNTON, Lumpkin, Ga. — *Corn and Cotton Seed Planter.* — July 16, 1867. — The corn or cotton and the guano are dropped simultaneously from different hoppers but from the same spout. Different hoppers are attachable for the planting of corn or cotton respectively, the fertilizer hopper being used in either case. A seed carrier is used for dropping corn, a stirrer for cotton seed.

*Claim.*—First, the combination of the corn and guano hoppers J and L, dropping cylinders I and K, shaft G, guide spout O, gear wheels E and F, drive wheel C, and shaft D, with each other and with the frame A of the machine, substantially as herein shown and described, and for the purpose set forth.

Second, the combination of the cotton-seed hopper

M and stirrer N with the guano or plaster hopper J, dropping cylinder I, shaft G, spout O, gear wheels E and F, drive wheel C, shaft D and frame A of the machine, substantially as herein shown and described, and for the purpose set forth.

**66,913.**—D. C. THRASHER and B. F. AIKEN, Freetown, Mass. — *Breech-loading Fire-arms.* — July 16, 1867. — The barrel slides forward to open the breech, the sleeve on its under side traversing on a bar secured to the stock. A pin on the bar limits the motion and moves in a groove of the sleeve, and the latter is locked by a latch when shut.

*Claim.*—The bar D, the tube E, (with its slot,) and the guide wing a, the spring catch F, and the steady pin H, in combination with the breech piece and barrel of a breech-loading gun, substantially as herein shown and described.

**66,914.**—J. E. and W. P. TYNAN, Paterson, N. J. — *Locomotive Truck.* — July 16, 1867. — The socket plate is connected to the beam by a bolt which passes through a slot in the latter and rests on elliptical rollers whose projections enter flaring holes in the socket plate and beam. The pivot plate has a lower cylindrical part fitting the cavity in the socket plate.

*Claim.*—The elliptical-winged rollers E E, the beam A, the socket plate B, the pivot plate C, and bolt D, when combined together as and for the purposes shown and specified.

**66,915.**—MICHAEL VETTER, Muscatine, Iowa, assignor to himself and SIMON KAHN, same place. — *Window Shade.* — July 16, 1867. — The straws are woven with cords to make a light blind.

*Claim.*—A window shade which is composed of straws woven together, in the manner described, as a new and improved article of manufacture.

**66,916.**—W. H. WALKER, Bangor, Me. — *Meat Chopper.* — July 16, 1867. — The frame is temporarily attached to a table, and the knife is reciprocated vertically by the crank and connections. The bow may be swung within certain limits to present the knife to meat in different parts of the bowl.

*Claim.*—First, the chopping knife as constructed with frame or bone B, crank c, wheels d and f, pitman D, and knife E, and arranged to connect with the table by means of a clamp A, or its equivalent, all constructed and arranged as and for the purposes specified.

Second, pivoting the frame or bow B, whereby a swinging motion may be imparted to the cutting blade, as described.

Third, the adjustable raising and lowering of the cutting blade by means and in manner substantially as described and shown.

**66,917.**—SETH WARREN, Hollis, Me. — *Wagon Brake.* — July 16, 1867. — The automatic crank brake is actuated by the forward motion of the sliding frame, attached to the rear axle, on descending a hill. The brake is kept from operating when backing by the reverse action of the wheels, which throw it up.

*Claim.*—First, the combination, as described, arrangement of the sliding frame i i j, with the rocker c, the pieces i i, working through the holes in the cross bar e, and having the brakes with the crank shaft o, all operating as and for the specified purposes.

Second, the combination and arrangement of the two cross pieces e and f, united by the rods h h, upon which moves the rocker c, as and for the purposes set forth.

Third, the brake when so arranged by means of the crank o as to press against the wheel when the carriage has a forward motion and to be thrown up, and thus relieve the wheels in backing, in the manner and for the purposes herein set forth and described.

**66,918.**—SETH WHEELER and EDGAR JEROME, Albany, N. Y. — *Drying Boxes, &c., of Pulp.* — July 16, 1867. — The frame fits over the form upon or within which a paper article may be dried after having been formed of paper pulp by atmospheric or mechanical pressure.

*Claim.*—Drying the hollow articles made directly from the paper pulp or other analogous substance, upon or within a frame which is rigid vertically but



expansible horizontally, such frame being the one upon or within which the articles are made.

**66,919.**—SETH WHEELER and EDGAR JEROME, Albany, N. Y.—*Finishing Boxes, &c., of Pulp.*—July 16, 1867.—The rigid, perforated frame, with the article formed in paper pulp upon it, is removed and placed beneath a die which expresses the water from the pulp.

*Claim.*—Pressing or finishing the article upon or within a removable permeable rigid frame, such frame being the one upon or within which the article is made.

Also, sustaining the hollow article by a permeable rigid frame during the pressing or finishing process.

**66,920.**—SETH WHEELER and EDGAR JEROME, Albany, N. Y.—*Making Blanks for Paper Boxes.*—July 16, 1867.—The blanks are made from paper pulp in shape suitable for forming boxes, &c.; the creases made in the blanks facilitate the bending into form, and the notches in the corners obviate the necessity of cutting into form.

*Claim.*—First, creasing the paper blanks in their manufacture for the purpose described.

Second, forming paper or paper board during the process of manufacture from pulp direct, with spaces at those points where, in the manufacture of many-sided hollow articles, no material is required, substantially as described and shown.

Third, as a new article of manufacture, paper or paper board made direct from pulp with creases on its surface and with spaces left in it at the points where, in the formation of many-sided hollow articles, no material is required, substantially as described and shown.

**66,921.**—JAMES WHITEHILL, Newburg, N. Y.—*Dust Room in Cleaning Cotton.*—July 16, 1867.—The brush is raised by rotation of a pulley, and is tripped and descends rapidly, impinging against a spring board at bottom. The device is to keep the meshes of the screen open.

*Claim.*—First, the combination with a screen to the dust room of a brush operating in its one stroke or action to abruptly and rapidly travel over or sweep the face of said screen while in its opposite or further action it moves at a slower velocity over the same, substantially as and for the purposes specified.

Second, the winding pulley G, with its tripping formation *c*, in combination with the brush and rope or chain, operating essentially as herein set forth for the purpose specified.

Third, in combination with the screen and brush, operating as described, a cushion or springs to arrest the brush in its descent, substantially as specified.

Fourth, the attachment to the rope F, when tripped, as described, of a swivel thereto, for operation in an intermediate manner between the winding pulley and brush, essentially as and for the purpose described.

**66,922.**—OSCAR J. WHITNEY, Clifton Springs, N. Y.—*Car Coupling.*—July 16, 1867.—The pin is maintained in an elevated inclined position, its end resting in a recess, till the draw bars come together, when it is tipped forward and falls into coupling position.

*Claim.*—Constructing the draw-head of a railway car with a recess E, in front of the hole through which the pin passes, and with an elevation C, to sustain the pin B, in an inclined position above the chamber into which the link enters, said draw-head being arranged to operate in connection with the ordinary pin B, substantially as set forth.

**66,923.**—B. WIELAND, Orangeville, Ill.—*Corn Planter.*—July 16, 1867.—The corn planter is attached to an ordinary plow. The rotary disk in the hopper regulates the amount and drops the seed, which is covered by shovels attached to the handle.

*Claim.*—The combination of the movable hopper D, provided with the rotary disk *c*, the guide bars *gg*, the brushes *i*, and the wire guides *m*, the marking wheel E, the discharge tube G, and the covering wings *nn*, arranged and operating substantially as and for the purpose herein described.

**66,924.**—LUTHER T. WILCOX and WILLIAM G. CALDWELL, Three Rivers, Mich.—*Cotton Seed Planter.*

—July 16, 1867.—The adjustable teeth are arranged within a case in the hopper, and are operated by gearing in connection with the driving wheel and regulated by cams secured to the case whereby the cotton seed is projected down the tube. Rotating arms work in the case, preventing choking therein.

*Claim.*—First, the adjustable or extension teeth *i*, arranged within the case J, and operated by means of the inclines J, on the adjustable box K, and the springs K, within the case, all arranged substantially as and for the purpose set forth.

Second, the rotating arm M, within the seed hopper I, arranged substantially as and for the purpose specified.

**66,925.**—WILLIAM R. WILCOX, St. Joseph, Mich., assignor to himself and WILLIAM W. WILCOX, same place.—*Fruit Box.*—July 16, 1867.—The end of the box is confined by the tenon protruding into the corner, and the locking of the bent end of the tongue into a slot in the side of the box.

*Claim.*—First, securing and supporting the cords of the box by means of the bent end *b*, fitting into the slot *c*, and the tenon *d*, fitting into the slot in the corner of the box, substantially as herein shown and described for the purpose specified.

Second, in combination with the above, the bottom C, substantially as herein shown and described.

**66,926.**—DANIEL N. WINSOR, Cambridge, Mass.—*Snow Plow.*—July 16, 1867.—The shape is a ship's bow inverted. The runners pass down to the ground, and gauge the depth of the snow to be left on the ground. In the hind part is a seat for the driver.

*Claim.*—First, the combination of the gauge runners B B with the plow body, provided with the cutting and plowing nose, as specified.

Second, the arrangement of the bottom of the nose of the plow body with respect to the rest of the bottom surface of the body, and with the two guide runners, in manner substantially as specified.

Third, the arrangement of the cavity *d*, and the seat *e*, within the body of the plow, as explained.

**66,927.**—ALVAH WISWALL, New York, N. Y.—*Door Spring and Hinge.*—July 16, 1867.—The leaf projecting from the door is pivoted to the leaf attached to the jamb, and a coiled spring on the latter bears against a roller on the end of the former, so as to maintain the door in position, closed or wide open, as it may be placed.

*Claim.*—The spiral spring *h* fitted on the upright rod *g* of the part C of the device, in combination with the oblique bar *b* of the part B of the device, pivoted to the bar *d* of the part C, and provided at its outer end with a friction roller E, against which the lower end *j* of the spring *h* bears, while the upper end *i* of said spring bears against the bar *c* of the part C, substantially as and for the purpose set forth.

**66,928.**—LEOPOLD WOLF, West Meriden, Conn., assignor to himself and K. S. HATHAWAY and JAMES HAMILTON, same place.—*Composition Finger Key for Piano-fortes.*—July 16, 1867.—The keys or finger pieces of the keys are made of a composition of rosin 10 parts, shellac 10, copal 5, melted, thickened with saw dust, colored with lampblack, and pressed to shape in metallic molds. A strengthening wire may be imbedded.

*Claim.*—First, as a new article of manufacture, composition finger keys for piano-fortes.

Second, the process of forming finger keys for piano-fortes in metallic molds.

Third, a composition for finger keys for piano-fortes, substantially as described.

**66,929.**—ORAMEL N. WOOD, Windsor, Vt., assignor to D. M. SMITH, H. H. MASON, and A. C. MASON, Springfield, Vt.—*Vent Plug.*—July 16, 1867.—The pipe is screwed into the barrel and the cap on the pipe; the latter has longitudinal grooves in its threaded part to allow the escape of gas when it is not screwed home.

*Claim.*—The tube A, provided with the external screw threads *a a*, and the cap B provided with a packing *f*, and an internal screw thread to fit on the upper screw thread *c*, and having grooves or air passages *e* made in it, all arranged substantially as and for the purpose set forth.



**66,930.**—L. M. WOODCOCK, Anburn, N. Y.—*Railway Chair*.—July 16, 1867.—The smaller chair sits in the larger, and the flanges of each support the rail laterally.

*Claim.*—The main chair *b*, in combination with the auxiliary chair *c*, constructed and used substantially as and for the purpose set forth and described.

**66,931.**—S. W. YOUNG and J. W. HOARD, Providence, R. I.—*Tool for Threading Screws*.—July 16, 1867.—The tool is placed in a slide rest, and acts similarly to a chase to form a thread upon the rotating blank. The cutting teeth are upon the end of the tool, and on the dulling of one set a partial rotation of the tool brings a fresh set into use.

*Claim.*—A longitudinally-ribbed cutting tool of cylindrical or other suitable form, the end of which is beveled or recessed, so as to form the extremities of the said longitudinal rib or blades into cutting points, in the manner herein shown and specified.

**66,932.**—WM. YOUNG, Easton, Pa.—*Steam and Water Joints*.—July 16, 1867.—The fitting and lock nut are recessed at the end, enclosing and pressing on the elastic packing of the joint.

*Claim.*—First, the cavity or recess *E* between the fitting and the nut *D*, substantially as and for the purpose set forth, in combination with the pipe *A B*.  
Second, the nut *D*, in combination with the socket or fitting *C* and the recess *E*, substantially as shown and described for the purposes specified.

**66,933.**—ANDREW CARSON, Memphis, Tenn.—*Automatic Life-preserving Boat*.—July 16, 1867.—The cabin deck with boats resting thereon is detached by the raising of a float in the hull as the boat sinks.

*Claim.*—First, constructing vessels with cabins, &c., constructed separate from the hull or framework of the vessel, and made detachable by devices operated automatically by the ingress of water into the body of the vessel, substantially as specified.

Second, in combination with the float *A*, the arms *D*, and latches *H*, or their equivalents, for the purpose set forth.

**66,934.**—WM. M. BALL, Morristown, Ind.—*Cultivator*.—July 23, 1867.—The front end of the cultivator rests on a wheel which has a face cam giving a vibratory motion to a bar, and through it to the seed slide in the box, discharging grain through tubes in the rear of the shares.

*Claim.*—The shaker bar *L*, operated by the cam *K*, the slide *N*, hoes *C*, tubes *H*, and seed box *G*, all arranged in the manner and for the purpose set forth.

**66,935.**—E. H. BARNEY and JOHN BERRY, Springfield, Mass.—*Skate Fastener*.—July 23, 1867.—The different conveniences necessary for attaching skates are combined in one tool. A pick and button to remove dirt, &c., from the template in the heel and a socket for the square of the screw which moves the sole clamps.

*Claim.*—As a new article of manufacture a skate fastener or key, composed of the socket *B*, the point *f*, and the button *e*, when made or combined in one piece, substantially as herein described and for the purposes set forth.

**66,936.**—ALFRED BAYLEY, Newark, N. J.—*Tea and Coffee Pot*.—July 23, 1867.—The neck, breast, and base are made in one piece with the sides instead of making separately and uniting with solder.

*Claim.*—Necks or breasts of oval tin tea and coffee pots when the same are formed of or upon the same piece or pieces as the sides of the pot.

Also, a bottom molding formed of or upon the same piece as the sides of oval tin tea and coffee pots, when combined in forming a pot with the neck or breast formed on or of the same piece as the sides.

**66,937.**—WM. W. BIERCE, Cleveland, Ohio.—*Apparatus for Carbureting Gas*.—July 23, 1867; antedated April 1, 1867.—The air enters by an axial pipe, descends through the sleeve tube into the chamber which floats upon the hydrocarbon liquid and is impregnated with vapor from the saturated fibrous material which fills the chamber and communicates by capillary connection with the liquid below.

*Claim.*—First, the provision in a carbureting vessel of the floating chamber *E*, provided with suitable absorbent material, substantially as set forth.

Second, the arrangement of reservoir *A*, having the axial inlet *F* and hollow-stemmed float *D E*, provided with absorbents and adapted to operate as set forth.

**66,938.**—J. B. BLAIR, Philadelphia, Pa.—*Rubber Head for Lead Pencils*.—July 23, 1867.—One end of the pencil is socketed in a rubber head.

*Claim.*—As a new article of manufacture an elastic erasive pencil head, made substantially in manner as described.

**66,939.**—JOHN D. BOWEN, Roseburg, Oregon.—*Plow*.—July 23, 1867.—The plate forms a cutter and a removable land-side.

*Claim.*—A cutter and bar sheath cut in one piece out of a sheet of steel, and attached to the bar of the land-side so as to be removable at will.

**66,940.**—EDWARD W. BRETTELL, Newark, N. J.—*Night Latch*.—July 23, 1867.—The key being inserted, pushes the tumblers to their proper places, and being turned, the dog will throw the frog bridge into the slots of the sliding tumblers. As the dog slips off the nose of the frog bridge, the arm of the cylinder holds the bolt, and by letting the key loose the spring actuates the bolt and other moving portions.

*Claim.*—First, the dog *y* on the cylinder arm of *C*, Fig. 4, bearing on *D\**, shown in Fig. 1, substantially in the manner and for the purpose herein set forth.

Second, the frog bridge *D*, with its nose *D\**, as shown in Fig. 6, substantially in the manner and for the purpose herein set forth.

**66,941.**—WM. BROWER, Baltimore, Md.—*Pulley Bit for Bridles*.—July 23, 1867.—The pulley frames are removable; are swiveled to the ends of the bit, so that in drawing the reins through them they turn on the bit and leave the latter in its natural position.

*Claim.*—In combination with a bridle bit, the pulley frames and pulleys, hinged or swiveled to the ends thereof, so that by drawing upon the reins passing around said pulleys, there shall be no tendency of the bit to turn in the horse's mouth, substantially as described.

Also, so combining the pulley frames and pulleys with the bit as that they can be removed therefrom without impairing its use as an ordinary bit, substantially as herein described and represented.

**66,942.**—FELIX BROWN, New York, N. Y., assignor to JOHN GEORGE GUNTHER, State of New York.—*Fog Signal*.—July 23, 1867.—Air or steam is blown through perforated disks, whose rotation, one or both, intermittently arrests the current which is passed through the trumpet.

*Claim.*—First, the blowing of air, compressed air, steam, or other gaseous fluid through perforations of disks or plates, while one or both of them are rotating, substantially in the manner described.

Second, constructing the sound tube or trumpet with a parabolically-shaped extension, substantially in the manner and for the purpose described.

**66,943.**—WALTER G. BROWNSON, Wellsville, Ohio.—*Telegraphic Switch Board*.—July 23, 1867.—The switch board has parallel rows of switch buttons corresponding to the lines leaving or entering the office; each row forms a connection of the line either to or from its proper instrument, the continuity of the line and the connection between all the buttons in a row being broken at one or two points only, to be restored as required by means of a switch button, there placed for the purpose.

*Claim.*—First, my improved telegraphic switch board, having the within-described system of switch buttons *C C*, arranged upon parallel main lines, in combination with transverse series 1 1 2 2 1' 1' 2' 2', &c., of switch plates, pins, or points, and with suitable ground and extra connection plates or points, the points, plates, or pins 1 1, &c., in each particular series, being connected together by wires, rods, or plates transversely to said main lines, and each of said lines and each of their instruments having direct connection with one, and one only, of said series in regular order, all substantially in the manner and for the purpose herein set forth.



Second, the combination of a metallic spiral, an india-rubber, or other equivalent spring, with the operating buttons C C of a telegraphic switch board, substantially as and for the purpose herein set forth.

Third, the combination of a base cap or cup O with a collar N and the shank c of a spring-actuated switch button, substantially in the manner and for the purpose herein set forth.

Fourth, the combination of a revolving swivel head m, Fig. 1, and attached metallic spring n, with a metallic post, or other support L, for the purpose of making ground or other connections for telegraphic lines and instruments, substantially in the manner and for the purpose herein set forth.

Fifth, the combination of a recess or catch i with the rest plate K of a telegraphic switch board, substantially in the manner and for the purpose set forth.

**66,944.**—WALTER G. BROWNSON, Wellsville, Ohio.—*Telegraphic Battery Switch Board.*—July 23, 1867.—The switch buttons are arranged in pairs corresponding to the number of batteries employed, including the buttons of each pole of a battery in one pair. The battery pole and its button are connected by a wire.

*Claim.*—First, combining the positive and negative poles of any number of batteries, separately, with the lines of a telegraphic system, or with the ground, by means of independent switch buttons, arranged upon a switch board to turn into contact with a point connected with the ground, and with points or plates connected with each line, all substantially in the manner and for the purpose herein set forth.

Second, combining and uniting any two batteries, connected with the lines of a telegraphic system by means of suitable buttons and points or plates upon a switch board by means of a condensing key or button H, combined with said board and the battery-connecting device thereon, all substantially in the manner herein set forth.

**66,945.**—WALTER G. BROWNSVILLE and DANIEL C. SHULL, Wellsville, Ohio.—*Telegraph Repeating Instrument.*—July 23, 1867.—Explained by the claims.

*Claim.*—First, the combination of the local battery circuit of any one of two main lines in a telegraphic system with the repeater of the other line by means of extra wires intercepting the local current between the sounder magnet and relay of first line, and so arranged as that said local circuit may be closed by the lever of the repeater when not closed by the armature lever of said relay, and vice versa, substantially in the manner and for the purpose herein set forth.

Second, metallic pins or rods passing through or secured to the sounder lever of a telegraphic repeater, in combination with the wires of a local circuit and a main line, and operating to open or close said line or circuit by the movements of said lever, substantially in the manner and for the purpose herein set forth.

Third, the combination of a main-line wire with a pin or rod on the sounder lever of a telegraphic repeater and with a ground-connecting spring or wire, so placed within reach of said pin as to be in contact therewith when the sounder is closed, substantially in the manner and for the purpose herein set forth.

Fourth, elastic plates, strips, or springs e and s or e and w, in combination with posts F F' and ground-connecting post E or G, and also, respectively, with insulated pins c on sounder A, and insulated point on adjusting screw o of sounder post E, when so arranged as that in the movements of the sounder the contact of one point with its corresponding spring shall not be broken until contact is established between the second point and its spring, substantially in the manner and for the purpose herein set forth.

**66,946.**—JOHN BURT and A. M. MILLER, Sturgis, Mich.—*Trial Square.*—July 23, 1867.—One arm of the square has two parallel blades enclosing slotted pieces, which have a motion within certain limits transversely to the said arm, and which rest against the work, and indicate its outline along the upper edge of the square.

*Claim.*—The employment of slotted pieces e e e, substantially in the manner described, for the purpose of indicating at the top of the square the condition of the work.

**66,947.**—DAYTON G. CANFIELD, Niagara Falls, N. Y.—*Circular Sawing Machine.*—July 23, 1867.—The frame that supports the saw mandrel is pivoted, so that the saw can be readily adjusted at any time while in motion by turning the set screw at the corner of the frame.

*Claim.*—The combination of the adjustable mandrel frame A, screw bolt I, swivel nut K and bearing J, constructed, arranged, and operating substantially as and for the purposes set forth.

**66,948.**—JOSIAH WARD CHILDS, Cincinnati, Ohio.—*Sash Fastening.*—July 23, 1867.—The friction block is encased in the frame, and in its gravitation is carried toward the sash, which it sustains by friction. The sash is locked by swinging the latch over the operating lug of the friction block, which prevents its raising.

*Claim.*—First, the slotted sliding plate a, thumb piece a', slots c c and guide pins b b, constructed and arranged as above described and for the purpose set forth.

Second, the plate e, latch l, in combination with sliding wedge a, as above described and for the purpose set forth.

**66,949.**—L. M. COOK, Owatonna, Minn.—*Churn.*—July 23, 1867.—Radial stationary breakers project inward from the sides of the vessel, and radial dashers on the shaft are oscillated by a handle.

*Claim.*—First, the stationary dashboards B B, substantially as and for the purpose described.

Second, the arrangement and combination of the stationary and movable dashboards, substantially as and for the purpose described.

**66,950.**—R. T. COVERDALE, Circleville, Ohio.—*Gas Apparatus.*—July 23, 1867.—The vertical movements of the floating gasometer are communicated to the valve in the pipe leading from the oil reservoir to the retort, regulating the supply of oil in proportion to the consumption of gas.

*Claim.*—First, the combination of the central tube b, feed pipe d, gasometer D, oil reservoir E, cock e, lever g, connecting device h and retort B, said parts being arranged substantially in the manner and for the purpose described.

Second, constructing the gasometer with a central guide tube b, and passing the feed reservoir pipe through this tube to the retort, substantially in the manner herein described and shown.

**66,951.**—GEORGE CUSTER, Norristown, Pa., assignor to himself and E. B. FRICK, same place.—*Apple Corer and Slicer.*—July 23, 1867.—The vertical square tube has radial and other knives, which core and divide the apple as the cross head and shaft are depressed.

*Claim.*—The base A, its block B, uprights a a and cross piece b, in combination with the sliding cross head c, tube of knives i i', rods d d, cross piece e, the whole being constructed, arranged, and operating substantially as described.

**66,952.**—MCDOWELL DARROW, Rochester, N. Y.—*Apparatus for Heating Tires.*—July 23, 1867.—The annular heating chamber has partial partitions to equalize the consumption of fuel around the tire. Registers are formed over the compartments to assist in equalizing the heat.

*Claim.*—A tire heater having compartments c c and registers f f, and which is otherwise constructed and arranged as described, and which operates as herein set forth.

**66,953.**—JOHN H. DEAL, Hornellsville, N. Y.—*Combined Clip and Brace for Carriage Springs.*—July 23, 1867.—The clip irons are connected by a strap, and also secured with the top brace. The connected curved-link plates brace the under side of the reach.

*Claim.*—The double clip a a, connecting strap b b and brace D, constructed in the manner described, in combination with the double link plate brace d d, applied substantially as and for the purposes herein set forth.

**66,954.**—JOHN H. DEAL, Hornellsville, N. Y.—*Step for Spring Wagons.*—July 23, 1867.—The link



of the connecting joint is elevated above the bolt to which the top spring is attached, and a roughened disk is supported on it as a step for mounting the wagon.

*Claim.*—Placing and securing a plate or disk to form a step on the iron or connecting link of platform springs for express or other wagons, substantially in the manner herein described for the purposes set forth.

**66,955.**—ROYAL E. DEANE, New York, N. Y.—*Cooking Range.*—July 23, 1867.—The water chamber extending along the top front angle of the range protects the plates from excessive heat.

*Claim.*—The construction of a cooking range, the use or employment of a chamber E, constructed and operating substantially as described for the purposes set forth.

**66,956.**—JOHN DEEBLE, Plantsville, Conn.—*Fifth Wheel for Carriages.*—July 23, 1867.—The fifth wheel is strengthened by a yoke connecting to the upper section of the wheel, and which spans the reach. An elastic wheel suspended from the yoke strengthens the under side of the wheel.

*Claim.*—Forming a connection and bearing of the two parts of a fifth wheel at their intersection with the reach by means of the yoke *f* and the wheel *l*, so as to support and hold the two parts of the fifth wheel together, the whole constructed and operated substantially in the manner herein set forth.

**66,957.**—WM. C. DURANT, West Troy, N. Y.—*Coal Stove.*—July 23, 1867.—Explained by the claims and illustration.

*Claim.*—First, in combination with a fuel magazine B of stoves, a deflector mouth piece C, either of a single or compound form of construction, in manner substantially as herein described and arranged to operate as and for the purpose set forth.

Second, the combination of hook-headed pendent lugs or brackets *c* on fire pot base plate W, with the respectively located coinciding notches or recesses *e* in the flange of bed-plate ring E, substantially as described, for the purpose of easily and quickly mounting or hanging said bed-plate ring with the fire grate in operating position, in manner as set forth.

Third, the combination of the dumping fire grate with an under suspended and horizontally vibrating or shaking bed plate, and with a lever for operating them, when said fire grate can be dumped but not vibrated independent of the bed plate, substantially as and for the purpose set forth.

Fourth, in combination with a horizontally vibrating grate and bed plate and a lever for shaking them, the terminating of the end of the journal or shank by which they are vibrated in a pocket *z*, so that said shank shall not project beyond the exterior of the stove, but be accessible and operated from the outside by the shaker through a suitable opening in said exterior, substantially as and for the purpose described.

Fifth, as arranged in combination with the exit pipe of a fuel magazine stove, the employment of a boiler-hole plate K, and in connection therewith the oven *m*, in manner substantially as herein set forth.

**66,958.**—WASHINGTON C. EVARTS, Danby, N. Y.—*Plow.*—July 23, 1867.—The double point elevates the earth, vibrating mold boards spread it over the ground on each side of the furrows. The mold boards are oscillated by a wheel in the rear of the middle of the beam; the semi-circular cavities on the periphery of the wheel cause adhesion to the ground, and cams on its sides at intervals project the mold boards and the earth outward.

*Claim.*—First, making a plow with the hinged mold boards E E, cam wheel D attached to the midrib or beam frame, or other convenient part, and actuating the same as and for the purposes described.

Second, making the cam wheel D adjustable by means of the hinged and slotted pieces E E, for the purposes described.

Third, hanging the mold boards on a separate and adjustable frame R R, for the purpose of using thereby various sized and shaped mold boards for various uses, as described.

Fourth, lap-hinging the various mold boards so far back of the plow points as entirely to conceal the

hinges and protect them from the earth as it slides over the joint, as described.

Fifth, extending the midrib of the beam frame B to near the wheel D, and so shaping the same in combination with the wheel as to make an even and smooth path for the wheel D, for the purpose of giving an even, steady motion to the cam wheel, as described.

Sixth, the combined whole, when virtually made and operated as described, for the purposes of double-wide furrow plow, cultivator, and digger, as set forth.

**66,959.**—JOHN B. GEMMILL, Strawbridge, Pa.—*Corn Planter and Guano Sower.*—July 23, 1867.—The hopper is divided into seed and fertilizer compartments; each has a reciprocating slide working between horizontal, slotted partitions, and adjusted by set screws. Conducting spouts communicate from the hoppers to the ground, and are adjusted by a lever connecting therewith by a rod. Automatic brushes sweep the superfluous grain from the pockets of the hopper.

*Claim.*—First, the hopper C when constructed with the two compartments C<sup>1</sup> C<sup>2</sup>, and provided with the reciprocating slides E E<sup>1</sup> and horizontal partition F F<sup>1</sup> G G<sup>1</sup>, for the purpose of depositing corn and a fertilizing material simultaneously, substantially as described.

Second, the springs *j* applied substantially as described, and employed for the purpose of ejecting the corn from the cells or discharge apertures of the slide E, as set forth.

Third, the combination of the forked lever L, pitman M, crank N, shaft O, sliding frame P, gear wheels O<sup>1</sup> Q<sup>1</sup>, and lever P, all arranged to operate in the manner and for the purpose specified.

**66,960.**—FREDERICK HERMANN, Grafton, Mich.—*Cross Head for Saw Mills.*—July 23, 1867.—The anti-friction rollers are recessed and journaled in two side blocks, which are bolted together and connected to the pitman. These rollers run in ways. The blocks keep dust and saw dust from the lubricated points.

*Claim.*—The combination of the wheels *d*, Figs. 1 3 4 6, with the peculiar and novel method of hanging the same by means of the boxing device shown in Figs. 1 3 4 6, for the purposes and in the manner specified.

**66,961.**—JOHN HEUERMANN, Davenport, Iowa.—*Fire Escape.*—July 23, 1867.—The ladder has pivoted brace poles to stand alone. A windlass is connected to a box which slides on the wagon sides, and has a catch ladder pivoted to it, with a projection at its lower end entering the slot of the T-shaped cam lever by which it is oscillated.

*Claim.*—First, the combination and arrangement of the fire-escape box in all its parts, in the manner and for the purpose herein described.

Second, the method of attachment of such fire escape box to an ordinary ladder, in the manner and for the purpose herein described.

Third, the method of attachment of the ladder to the fire-escape box, so as to be easily thrown to and from the building by means of the cam and ropes, arranged substantially as and for the purposes set forth.

**66,962.**—S. C. HOTCHKISS, Sylvania, Ohio.—*Lime Kiln.*—July 23, 1867.—The furnaces on opposite sides have direct communication with the kiln, and upwardly ascending passages having exit at other points within the same.

*Claim.*—First, in a lime kiln the upwardly-inclining draft passages *g g h h*, substantially as and for the purposes described.

Second, the combination of the upwardly-inclining passages *g g h h* with the outlet *a* and draft passage *f*, substantially as and for the purposes described.

**66,963.**—EDWARD F. HOWARD, Boston, Mass.—*Steering Apparatus.*—July 23, 1867.—The sliding blocks attached to the half screws are connected to bisected blocks sliding in slots in the side projections of the rudder-post head.

*Claim.*—First, a steering apparatus, operated by means of two half screws, whose threads run in opposite directions, passing through a double-threaded nut,



whose threads run in opposite directions, and to which the steering wheel is attached, substantially as described.

Second, in combination with the slides E E', operating as described, the ball b and divided socket s, arranged and operating as set forth.

Third, the combination of the half screws S S', constructed and arranged as described, with the double-threaded nut N, constructed as described, for the purpose of transmitting and changing the direction of motion, in the manner specified.

**66,964.**—W. S. HUDSON, Paterson, N. J.—*Piston Packing.*—July 23, 1867.—A central ring, adjustable by radial bolts, is flanked on each side by a steam-packed ring.

*Claim.*—First, the combination of the adjustable packing ring C with one or more steam-packed rings B<sup>1</sup> B<sup>2</sup>, so as to operate together substantially as and for the purpose herein specified.

Second, the parts A<sup>1</sup> A<sup>2</sup> of the piston, adapted for clamping the adjustable ring C, as specified, in combination with steam-packed rings B<sup>1</sup> B<sup>2</sup>, or their equivalents, as and for the purpose herein specified.

Third, in combination with packing rings arranged to operate substantially as herein specified, the projection g and piece E, adapted for holding the splicing piece G G<sup>1</sup> G<sup>2</sup>, and consequently the whole adjustable ring C against turning around in the piston, substantially as and for the purpose herein set forth.

**66,965.**—A. JAMESON, Trenton, N. J.—*Vise.*—July 23, 1867.—The recessed plate, screwed to the bench, holds the head of the bolt that screws into and secures the vise in position.

*Claim.*—The combination of the plate G, disk H, and bolt I, the whole being constructed and arranged for the confinement and adjustment of a vise on a bench or table, substantially as herein described.

**66,966.**—JOHN V. JENKINS, Manchester, Mich., assignor to RICHARD B. WALKER and LEWIS MILLER, Akron, Ohio.—*Machine for Shearing Sheep.*—July 23, 1867.—The hand crank wheel oscillates the shears by a connection of endless bands, gimbal joints, and shafts.

*Claim.*—The jointed wrist so arranged that the wrist shaft can be placed at any angle from the vibrating beam or sway-bar, and accommodate itself to the connecting shaft without binding, cramping, or impeding the motion of the sway-bar or cutters, substantially as described.

Also, a presser so arranged that the operator can at pleasure and while the cutters are in motion apply pressure upon said cutters to hold them to the fingers or release the pressure as occasion may require, substantially as described.

Also, the holding or uniting of the cutters to the sway-bar by means of holes in the former and points on the latter to allow the cutters to be readily removed for sharpening and replaced, substantially as described.

**66,967.**—J. M. JOMAIN, Paris, France.—*Metallic Blind.*—July 23, 1867.—Sheet iron is rigidified by fluting or bending into a concavo-convex or other form, to adapt it for blinds and doors. Slits may be made in it representing the slats of venetian blinds.

*Claim.*—First, a window blind or door, constructed of a metallic plate fluted around and on its sides, and provided with slats formed in the said plate, as and for the purposes shown and described.

Second, a window blind or door of sheet iron or other sheet metal, in which the slats are formed from strips partially detached from the said metal sheet or other sheet metal and bent, substantially as herein described.

**66,968.**—M. H. N. KENDIG, Washington, D. C.—*Paper Fastening.*—July 23, 1867.—The fastener is so stamped out of the metal sheet as to leave no chips, and that points will project laterally from its upper corners when attached. Projections on the inside of the legs give firmer hold.

*Claim.*—A paper fastener, provided with a slot a or teats a', in its legs or clasping points, substantially as and for the purpose set forth.

**66,969.**—JOHN H. KEYSER, New York, N. Y.—*Coal Stove.*—July 23, 1867.—The outer jacket is rota-

table to expose the central grated fire pot or to close the stove. The device may be applied to a base burner or another form of stove.

*Claim.*—First, the application to a stove of the form and character described and shown of a conical jacket G, which is provided with openings c' c', corresponding to openings c c, through the body of the stove, substantially as described.

Second, the parts B C and D, in combination with the conical jacket G and a suspended open-work fire pot E, substantially as shown and described.

Third, the relative arrangement shown and described of the openings c' through the conical jacket G, the opening c, through the stove and the suspended open-work fire pot E.

**66,970.**—EZRA B. LAKE, Bridgeport, N. J.—*Curtain Fixture.*—July 23, 1867.—The curtain roller is hung on brackets attached to the upper bar of the sash, and turned by a cord which passes around it, and around rollers upon the frame.

*Claim.*—The roller c and its pulley e, turning in brackets secured to a window sash, in combination with an endless cord passing round the pulley e and around a pulley i, and an adjustable pin n, or their equivalents, secured to the window frame, all substantially as and for the purpose described.

**66,971.**—JOHN L. LAY, Buffalo, N. Y., assignor to himself and H. O. PERRY, same place.—*Steam Engine.*—July 23, 1867.—In this class of engines the steam is applied at full head in the smaller cylinder, and its expansion is utilized by exhausting into a larger one. The piston-rod packing consists of three sectional rings, the inner two being tongued together, and the outer one embraced by a zonal ring, constricted by a set screw, whose rod bears a hand wheel outside the cylinder. The cylinders have manholes in their sides at the contiguous ends.

*Claim.*—The arrangement of the manholes H I, with reference to the packing L and pistons D E, as and for the purposes set forth.

Also, the packing L, constructed, arranged and operating substantially as and for the purpose described.

**66,972.**—JOHN L. LAY, Buffalo, N. Y., assignor to himself and H. O. PERRY, same place.—*Steam Engine.*—July 23, 1867.—This engine belongs to the same class as the preceding. The cross-head of the smaller piston rod connects by slide rods with the larger piston. These rods slide in boxes supported in arms projecting from the small cylinder head. The larger cylinder head and piston and the division plate between the two cylinders have manholes.

*Claim.*—First, the combination with the abutting vertical cylinders A B, with the piston rods E G G L, and cross-head or heads F, arranged and operating substantially in the manner and for the purpose set forth.

Second, forming a manhole in the piston K, substantially as and for the purpose specified.

Third, the arrangement of the manhole P in the bottom head of the lower cylinder with the manhole O, substantially in the manner and for the purpose described.

Fourth, the manhole N, in the intermediate head of the vertical abutting cylinders A B, arranged with reference to the manhole G in the piston head, substantially as and for the purpose set forth.

Fifth, the guide arms i i, in combination with the rods G G and cylinders A B, operating substantially as and for the purpose specified.

**66,973.**—JOHN L. LAY, Buffalo, N. Y., assignor to himself and H. O. PERRY, same place.—*Steam Engine.*—July 23, 1867.—This engine belongs to the same class as the preceding. The two pistons reciprocate in lines at right angles to each other to obviate dead centers on the shaft to which they are both connected.

*Claim.*—The arrangement of a high and low pressure cylinder A B, inclined as described and connected by the pipe E, in combination with the double crank shaft D, connected with and operated by both, substantially in the manner and for the purpose set forth.

**66,974.**—JOHN L. LAY, Buffalo, N. Y., assignor to himself and H. O. PERRY, same place.—*Steam En-*



*gine.*—July 23, 1867.—This engine belongs to the same class as the preceding. Explained by the claim and illustration.

*Claim.*—A frame for supporting the cylinder E F of vertical compound engines, composed of the converging standards A A and H H, cap or intermediate plate C, flanges g g and brackets D D, or equivalent, with the pillars G G, combined and arranged substantially in the manner and for the purpose set forth.

**66,975.**—JOHN L. LAY, Buffalo, N. Y., assignor to himself and H. O. PERRY, same place.—*Steam Engine.*—July 23, 1867.—This engine belongs to the same class as the preceding. Explained by the claims and illustration.

*Claim.*—First, the arrangement of the high-pressure cylinder B, concentrically within the low-pressure cylinder A, when both are closed by the same heads C D, and the pistons actuate rods attached to the same cross-head below the cylinders.

Second, the valve L, provided with the cavities u u, recesses v, valve chamber r, and hollow trunnion s, in combination with the ports m n o p and chamber g, for operating the two cylinders of a high and low pressure engine, substantially as set forth.

Third, the valve, constructed as described, in combination with the concentric cylinders A and B, of a high or low pressure engine.

**66,976.**—JOHN L. LAY, Buffalo, N. Y., assignor to himself and H. O. PERRY, same place.—*Steam Engine.*—July 23, 1867.—This engine belongs to the same class as the preceding. The piston rod of the smaller cylinder passes through an axial tube of the larger cylinder and connects by a cross-head to its two piston rods. It is packed at its outer ends, rendering packing between the cylinders unnecessary. The piston valves are attached to a single longitudinally-reciprocating stem.

*Claim.*—First, the employment of a tube H, in combination with the piston rod G and cylinders A B of a high and low pressure engine, substantially in the manner and for the purposes set forth.

Second, the valve K, consisting of the rod f and pistons g h i, arranged with reference to the ports a b c d and chamber e, substantially as specified.

Third, the above-described valve, in combination with the high and low pressure cylinders A B, provided with the tube H, the whole arranged and operating substantially as described.

**66,977.**—GEORGE W. LEFFINGWELL, Columbus, Wis.—*Beehive.*—July 23, 1867.—The honey frames are swung by eyes to a traverse rod, and connected in pairs by eyes and bolts; projecting pins acting to keep open the alternate spaces.

*Claim.*—Connecting the swing comb frames together by means of metallic loops or staples B B, fixed in alternate sides of the frames A, and a movable wire or rod C, passing perpendicularly through the same, so arranged as to permit the frames to open from alternate sides, substantially as and for the purpose described.

**66,978.**—JOHN LIPPINCOTT, Pittsburg, Pa.—*Manufacture of Axes.*—July 23, 1867.—The cheeks of the iron blank are scarfed to receive the edges of a U-shaped steel blank.

*Claim.*—The method hereinbefore described of securing the steel bit to axe polls and other edged tools by inserting the bifurcated edges x x of the bit into a slot or scarf on each side of the stock or poll so as to lap the edge of the stock or poll over the bit, and then welding them together, substantially as and for the purposes hereinbefore set forth.

**66,979.**—W. H. LOTZ and F. BAUMANN, Chicago, Ill., assignors to W. H. LOTZ.—*Brick Machine.*—July 23, 1867.—The clay from the bank is ground, screened, elevated, and delivered into the hopper, from whence it is taken by the slide, a charge at a time, and delivered into the mold. A solid portion of the slide forms a cover for the mold, and is held by a cam while the plunger is raised by the double toggle beneath, pressing the clay around the pins. The cover being withdrawn, a further motion of the plunger raises and discharges the brick.

*Claim.*—First, a double-toggle lever having two or more sets of legs, arranged to come into operation

successively, for the purpose of first pressing the brick in the mold and then removing the same therefrom, substantially as described.

Second, the slide E for delivering the clay to the molds, and having attached to and moving with it a solid portion or metal block F, to operate as a cover to the mold during the operation of pressing the brick, substantially as set forth.

Third, the cam J, when arranged to hold the cover of the mold while the brick is being pressed, substantially as described.

Fourth, the stationary pins e located in the mold, and having the plunger that presses the brick slide on or around the pins, as and for the purpose set forth.

Fifth, the use of the supplementary plunger w, resting on or supported by a spring and having the plunger I arranged to slide on or around it, for the purpose of accommodating itself to the quantity of material in the mold, substantially as described.

Sixth, regulating the amount of material delivered to the mold by adjusting or limiting the distance that the pressing block or plunger is withdrawn from the mold, substantially as described.

Seventh, the screen Z, arranged to operate in combination with the crushing rolls W, and having a vertical motion imparted to it, substantially in the manner shown and described.

**66,980.**—DAVID J. MARTIN, Covington, Ohio.—*Animal Trap.*—July 23, 1867.—The bait is placed upon the treadle and the door raised to rest on the shoulder of the catch. When a weight presses the treadle, it tilts, drawing the catch from the door by a cord.

*Claim.*—First, the employment of the spring trigger or catch F for the purpose of engaging the sliding door D in the manner specified.

Second, in combination with the above, sliding door D, cord H, and treadle G, substantially as and for the purpose described.

**66,981.**—JOHN MATSON, Bridgeport, Conn.—*Carpet Fastener.*—July 23, 1867.—The fastener is secured in the corner of the room, and the carpet is secured therein by the screw.

*Claim.*—The carpet fastener, constructed substantially as herein described, as an article of manufacture, consisting of the base A, upright B, and lug D, with the screw C.

**66,982.**—CAROLINE McCLEARY, Hollidaysburg, Pa., administratrix of the estate of DAVID McCLEARY, (deceased,) assignor, as administratrix, to GEO. H. McCLEARY, same place.—*Renovating Harness and other Articles Made of Leather.*—July 23, 1867.—Old harness is soaked in a solution of sumach, 5 pounds; wood ashes, 1½ peck; sal soda, 1½ pound; and yarrow, 1½ pound; then washed and oiled.

*Claim.*—The composition for cleaning old harness and other dry and hard leather composed of the ingredients in the proportions and prepared and applied in the manner substantially as herein described and set forth.

**66,983.**—JACOB MILLER, Canton, Ohio.—*Harvester Rake.*—July 23, 1867.—The rake and spur gears turn the rake upon the driving arm during the sweep of the latter. The arms are extended and contracted as its roller travels between the segments, and this motion actuates the axis of the rake head.

*Claim.*—In combination with a rake or fork for clearing the platform of a harvesting machine and revolved horizontally over said platform by an arm or arms driven from the main wheels, the cam, and rake and pinion motions, for projecting and withdrawing said rake or fork as well as for turning it on its arm, so that it may properly traverse the platform, enter, sweep around, and deliver the cut grain, substantially as described.

Also, the spring guard e for strengthening the tines d, substantially as described.

**66,984.**—L. H. MILLER, Baltimore, Md.—*Burglar and Fire-proof Safe.*—July 23, 1867.—The bolts are moved in a plane parallel to the face of the door from which they project, L-shaped slots receiving the bolts.

*Claim.*—First, so arranging the bolts or fastenings



of a fire-proof safe door as to avoid spaces or chambers about the bolts or lock in which powder or other explosive substance might be used to open the safe, said object being effected by means substantially as described.

Second, applying the bolts *b b* to a sliding guard plate *E*, which is enclosed within the safe-door so as to move in a plane parallel, or nearly so, to the plane of that face of the door from which the said bolts project in combination with the slots *g* in the door frame, substantially as described.

**66,985.**—C. E. MITCHELL and M. MORIARTY, Bangor, Me., assignors to CHARLES E. MITCHELL and PHILANDER EVANS, same place.—*Moustache Guard*.—July 23, 1867.—To be applied to the rim of a drinking cup to keep the moustache from dipping in the liquid. The studs on the outside of the cup are drawn into contact therewith by a spring.

*Claim.*—The said moustache guard, or combination of the plate *A* and either one or two auxiliary plates *B C* and their studs *d e*, or the equivalents thereof, the said auxiliary plate or plates having one or more springs applied to it or them to operate it or them, as specified.

**66,986.**—L. J. NEWLAN, Barton, N. Y., assignor to himself and STEPHEN F. MACK.—*Bolt Cutter*.—July 23, 1867.—The pivoted tool carriers are forced in by a sweep of the two cam levers to cut the bolts.

*Claim.*—First, making the frame of a bolt-trimming tool of the parts *B, G*, and *H*, for the purpose of supporting and controlling the other parts, substantially as figured and described.

Second, in combination with the described frame of my bolt trimmer, the use of two cammed levers *A* and *A* hinged on the transverse pieces *B*, and of two jaws or knife holders *C* and *C* hinged on the pieces *H*, when made and operating as described.

Third, the square, many-sided, or other shaped holes for the knives *F* and *F*, in the jaws *C* and *C*, so made that the knives can be turned or changed so as to suit the cutting of bolt in various places and positions, in combination with the other figured and described parts of my bolt trimmer, as set forth.

Fourth, the described hand-tool made of the several figured and described parts, as a combined whole, making a convenient and effective instrument for trimming off the bolts of carriages and other similar uses, as described.

**66,987.**—THOS. W. NICHOLS, Trout Creek, N. Y.—*Soap*.—July 23, 1867.—Composed of hard common soap, 4 pounds; sal soda, 3 pounds; starch,  $\frac{1}{2}$  pound; beeswax, 1 pound; glycerine, 1 pound; tinct. cantharides,  $\frac{1}{2}$  pound; water, 20 gallons—compounded as stated.

*Claim.*—The combination of the above ingredients, used in the manner and for the purpose described.

Also, the use of cantharides, glycerine, and beeswax, in the manner and for the purpose described.

**66,988.**—G. H. OBER, Newbury, Ohio.—*Wood-Planing Machine*.—July 23, 1867.—The head has adjustable cutters and a serrated edge; the latter acts as a rasp to smooth the work done by the cutters.

*Claim.*—The herein-described enter head *A*, provided with a serrated rim *D*, when used as and for the purpose set forth, in combination with the adjustable cutters *C*.

**66,989.**—HENRY OBRECHT, Mahanoy City, Pa.—*Meat Chopper*.—July 23, 1867.—A vertical reciprocating motion is given to the knives by the ratchet wheels, lever, and rods, connecting with and actuated by the hand-crank.

*Claim.*—The lever *F*, rod *O*, wheel *K*, plate *H*, knives *G*, and swivel *L*, combined and arranged substantially as and for the purpose specified and set forth.

**66,990.**—WM. L. OVERHISER, Stockton, Cal.—*Hay Elevator*.—July 23, 1867.—The derriek is stayed by guys and supported in a portable frame. From it the tackle of the horse hay fork is suspended.

*Claim.*—The single rope *I*, in combination with the pulleys *H* and *K*, and the block *L*, for the purpose of effecting the simultaneous motion of the

forks *M*, in opposite directions, substantially as described.

**66,991.**—ABRAM REESE, Pittsburg, Pa.—*Horse-shoe Machine*.—July 23, 1867.—A bar consisting of a series of blanks is fed intermittently under a tripping cutter by which the blanks are cut off. The ends are bent over a former by lugs projecting from the cylindrical face of a rotating disk, the guides giving the proper curvature. The shoe is then automatically removed from the "former" and pressed.

*Claim.*—First, a former, either fixed or movable, and of the shape of the inside of a horseshoe, in combination with flexible arms *a*, fitted with lugs *a'*, attached to and operated by a revolving disk or cylinder, and guides *d d*, and flange *b'*, or their mechanical equivalents, for bending horseshoe blanks, substantially as and for the purposes hereinbefore set forth.

Second, discharging the shoe when bent around the fixed and movable former *b*, by a roller *e'*, operating against the lower end of a bent swinging bar *h*, to which the former is attached, substantially as and for the purposes hereinbefore set forth.

**66,992.**—AARON P. RICH, Troy, N. Y.—*Machinery for Fitting up Stove-plate Pattern Boiler-hole Seats*.—July 23, 1867.—The plate is clamped to the table and its circular openings turned by tools on a rotating head passed through the opening from beneath.

*Claim.*—The employment of a rotating tool holder *J*, having a vertical feed motion, and its shaft *H*, passing through its bed plate in manner substantially as set forth, in combination with circumjacent adjustable bearing or "bed" screws *q*, and a slotted bed plate *D*, with adjustable clamp and stay pieces, substantially in manner as herein described and for the purposes set forth.

**66,993.**—G. A. RIEDEL, Philadelphia, Pa., assignor to THE AUTOMATIC BOILER FEEDER COMPANY OF PENNSYLVANIA.—*Automatic Boiler Feeder*.—July 23, 1867; antedated July 9, 1867.—Improvement on his patent July 3, 1866. The reservoirs are supported on tubular projections from the segmental, oscillating slide-valve. When one of the reservoirs descends with its load of water, it is placed in communication with the boiler, discharges its water into and takes steam from the same. The other, meanwhile, receives water and descends in turn.

*Claim.*—First, the valve *C*, and steam opening *d*, in combination with a plunger *E*, which is caused to bear on the valve by the pressure of the steam, substantially as and for the purpose described.

Second, the cylinder *s*, and hollow plunger *p*, in combination with the reservoir *H* and rod *h*, with its piston *o*, the whole being constructed and operating as and for the purpose set forth.

**66,994.**—T. E. SEXTON, Wilmington, Del.—*Rail-road Rail Coupling*.—July 23, 1867; antedated July 18, 1867.—The fish plates extend beneath the rails and are lapped together.

*Claim.*—First, the two plates *A* and *A'*, lapped together and adapted and secured to the ends of two rails, substantially as described for the purpose specified.

Second, the lips *e*, on the plate *A'*, arranged to underlap and confine the folds of the plate *A*, as set forth.

**66,995.**—GEORGE F. SMITH, Philadelphia, Pa.—*Venetian Blind*.—July 23, 1867.—The blind is drawn up by tapes coiled around a roller which is rotated by a single cord. The gravitating pawl prevents rotation of the roller to lower the blind. The pawls may be raised by its bearing lever which operates a brake.

*Claim.*—First, the application to a venetian blind of the roller *A*, in combination with the flat take-up bands *B B*, and the suspended operating cord *C*, the said parts being constructed and applied to operate substantially as and for the purpose described.

Second, in combination with the subject-matter of the preceding clause, the application of the ratchet wheel *G*, the jointed gravitating pawl lever *E*, the brake bar *F*, and the suspended cord *H*, the same



being constructed and applied to operate substantially as and for the purpose described.

**66,996.**—OREN B. SMITH, Palmer, Mass.—*Loom Picker*.—July 23, 1867.—The bolt head and nut which clamp leather strips have intumed lips to prevent rotation.

*Claim.*—The application of the screw bolt and its nut to the picker and the staff, substantially as described, that is, so that when the screw is set up into the nut, neither of them can turn independently of the part against which it is borne.

Also, the construction of the screw and nut, viz: with the ears *b b b b* arranged on them, as and for the purpose specified.

**66,997.**—T. B. SMITH, Ansonia, Conn.—*Machine for Cutting Veneers*.—July 23, 1867.—The machine slits the veneer into narrow cuts during the process of shaving, so as to deliver it in strips instead of in sheets. The revolving cutter cylinder and stationary cutter are arranged upon their respective carriages to move towards or from each other, and act upon opposite sides of the block, to shave and split respectively.

*Claim.*—The cylinder H, with its cutters *a*, upon a carriage E, with the stationary cutter *d*, upon its carriage E, with the mandrel C, when arranged so that the two carriages are moved to present the cutters upon opposite sides, substantially as and for the purpose herein set forth.

**66,998.**—EDWIN R. STILLWELL, Dayton, Ohio.—*Feed-Water Heater*.—July 23, 1867.—The water is passed over the corrugated bottoms of a vertical series of shallow trays, and through a filter within a steam chamber.

*Claim.*—First, the feed-water purifier, having its filtering chamber *f*, and its cap or hood *b'*, arranged in the relation to corrugated pans or corrugated plates *c*, and to inlet and outlet pipes *a d*, substantially as and for the purpose set forth.

Second, the filtering chamber constructed and arranged as shown and described, within the horizontal chamber A B, which has its outlet *d*, arranged as shown.

**66,999.**—JOHN STOFER, Cleveland, Ohio.—*Toilet Glass*.—July 23, 1867.—The bracket is hung to the top of the large glass, and the smaller glass is supported by and slides upon the adjustable arm.

*Claim.*—The pivoted rest D, hinged arm B, bracket A, and glass E, combined and arranged in the manner substantially as set forth.

**67,000.**—JOHN BLAKE TARR, Chicago, Ill.—*Machine for Making Cast-Steel Car Wheels*.—July 23, 1867.—Improvement on his patent of August 28, 1866, in respect to the employment of hydrostatic pressure for compressing the casting, for raising and depressing the follower and the core which forms the eye, and for preserving the parallelism of the movable and lower sections. The mold is adapted for castings of different thicknesses and weight of metal.

*Claim.*—First, the condensation of cast-steel car wheels while in a molten state by means of hydrostatic pressure, applied substantially as described.

Second, the use of two or more piston rods J J J, to connect the movable section N, follower C, with the piston I, in an apparatus for casting cast-steel car wheels, for the purpose of obtaining uniform pressure on the metal in the month, substantially as described.

Third, the gauge hooks *e e*, or their equivalents, applied to the follower C, for regulating the thickness of the casting, substantially as described.

Fourth, in a machine which is adapted to molding and pressing cast-steel car wheels, connecting the core D with a piston moving in its own cylinder, so that said core can be raised and depressed by hydrostatic pressure, substantially as described.

Fifth, the combination of a cylinder H, piston rods J J J, and follower C in a machine for casting car wheels, substantially as and for the purpose described.

**67,001.**—THOMAS TAYLOR, New Orleans, La.—*Crank Motion*.—July 23, 1867.—Combined with a crank are two slotted arms and a crank slide, which so tip and change positions as that one or the other

of the rods will always work at an advantageous angle with regard to the crank, and thus pass it over the dead point.

*Claim.*—First, in combination with a single crank the two slotted connecting rods and single frame, constructed and operating together, substantially as and for the purpose described.

Second, in combination with the crank and two connecting rods, the crank slides and disconnecting mechanism, substantially such as described, for allowing said rods to pass their dead points or centers, as set forth.

**67,002.**—JOHANN TIETZ, Baltimore, Md.—*Plow*.—July 23, 1867.—The two draft beams have each a clevis to which a trace is attached. The standard is forked and supports two shares to either of which the point of the mold board may be fixed to form a right or left hand plow.

*Claim.*—First, the forked plow standard C, as and for the purpose described.

Second, the reversible mold board F, in combination with the standard C and braces D D, substantially as and for the purpose specified.

Third, the adjustable clevis N, substantially as and for the purpose described.

**67,003.**—CHARLES W. WAILEY, New Orleans, La.—*Device for Pulling Metal Hoops from the Finishing Rolls of Rolling Machines*.—July 23, 1867.—The chain runs constantly with the rollers, and at double the rate of the passing hoop. The hoop as it issues touches a trigger, which by certain connections actuates the tongs, shifts the clutch, and the carrier runs away with the end of the hoop, which is dropped at the end of the route, and the carrier returns for another.

*Claim.*—First, the automatic pulling of hoops from the finishing rolls of rolling mills by means of a reciprocating carrier, arranged and operated substantially as herein described for the purpose set forth.

Second, the tongs carrier C, with its appliances herein enumerated, substantially as described for the purpose set forth.

Third, the combination of the tongs carrier C, and its appliances, with the guide ways B B', as described, for the purpose set forth.

Fourth, the combination of the tongs carrier C, and its appliances, the guide ways B B', chain D, and tooth wheel E, with the adjustable block P, substantially as described for the purpose set forth.

Fifth, the combination of the tongs carrier C, and its appliances, the guide ways B B', the endless chain D, tooth wheel E, and block P, with the friction cone *y*, substantially as described for the purpose set forth.

**67,004.**—JOHN WALMSLEY, Buffalo, N. Y.—*Potato Digger*.—July 23, 1867.—Riddlers are attached to the head behind the shovel to separate the dirt from the potatoes.

*Claim.*—The arrangement of the riddlers *g g* and *g' g'*, in the manner and for the purpose described.

Also, the head *h*, provided with lugs *s* and holes *i i*, for the insertion of the riddlers, in combination with the combined point and share F, screw bolts *n n'*, and end J of the sole, constructed and arranged substantially in the manner and for the purpose set forth.

**67,005.**—HERVEY WATERS, Boston, Mass.—*Fagot for Scythes*.—July 23, 1867.—The iron and steel are so disposed in a fagot that when welded into a bar, the latter contains the metal for two scythes, the steel being at the outer edges.

*Claim.*—A fagot or pile having an arrangement of iron and steel for two or more scythes, substantially as described.

**67,006.**—P. L. WEIMER, Lebanon, Pa., assignor to himself, J. A. WEIMER, and L. E. WEIMER, same place.—*Ringin' Bells*.—July 23, 1867.—The object is to prevent the continued striking of the clapper in the same places. As the bell swings on its yoke the pawl on the weighted lever comes in contact with the ratchet on the crown and rotates the bell on the axis a part of a revolution.

*Claim.*—First, the application of ratchet teeth to the crown of a bell, which is adapted for being rotated by a vibrating lever and pawl while being rung, substantially as described.



Second, an independently-vibrating lever C, provided with a weight and a pawl, or their respective equivalents, and applied to an oscillating yoke B, having a rotating bell suspended from it, substantially as described.

**67,007.**—J. A. WELSH, Xenia, Ohio, assignor to himself, B. D. ANDERSON, R. S. FINLEY, SOLOMON K. HORNER, WILLIAM H. WILSON, and CHAUNCEY W. NEWTON, same place.—*Brick Machine*.—July 23, 1867.—The clay is ground in a conical vertical hopper, is pressed by a screw through the mouth of the said hopper into molds in a horizontal wheel underneath. The surfaces of the bricks in the mold are sheared off even by revolving disks and then automatically removed from the molds.

*Claim.*—First, the conical hopper B having the box C on its side, with an opening *d* leading therein, substantially as and for the purpose set forth.

Second, the combination of the hopper B, having its mouth rectangular in form, corresponding to the shape of the side of the brick, and slightly smaller than the mold which is to receive and form the brick, with the rotary table I, having the mold *c* formed therein, when arranged to operate substantially as described.

Third, in combination with a series of movable molds, the use of one or more rotating disks for cutting off the clay and smoothing or forming the surface of the brick.

Fourth, in combination with the rotating table L, having the molds *c* formed therein, the stationary table U, when arranged to support the clay in the mold while being passed in from the hopper, as set forth.

Fifth, so arranging the table I and the screw N that each shall have an intermittent movement alternately, to permit the wheel to remain stationary while the screw is pressing the clay into the mold, and the screw then remain stationary while the table is rotating to remove the filled mold and present an empty mold, substantially as described.

Sixth, the plunger F, when arranged to operate in connection with the table I, as set forth, for the purpose of removing the bricks from the molds after being pressed, substantially as set forth.

Seventh, the reservoir J in the interior of the plunger, having the opening *o*, for the gradual escape of the oil for saturating the cloth *h* and oiling the molds, as described.

Eighth, the combination and arrangement of the driving wheel D, when constructed as described, with the wheels E and F, for the purpose of imparting to the screw N and the table I intermittent motions, as herein described.

**67,008.**—WILLIAM and JAMES WHITT, Independence, Iowa.—*Seeder and Cultivator*.—July 23, 1867.—The different sections of the cultivator are raised and adjusted by levers connecting therewith by cords. The oscillating shaft in the hopper keeps the seed from clogging, and a lever reaching back to the driver regulates the dropping of the seed.

*Claim.*—The seed box, with oscillating bottom shaft E, provided with wings, levers *d* and *g g g*, cultivator F, and cords *h h h*, when all are arranged substantially in the manner and for the purpose herein set forth.

**67,009.**—WILLIAM and JAMES WHITT, Independence, Iowa.—*Sulky Harrow and Cultivator*.—July 23, 1867.—The cultivator is supported by cords running over pulleys and adjusted by levers.

*Claim.*—The cultivator B, harrow C, levers *h h* and *b*, and cords *i i* and *m*, the whole being combined and operated as and for the purpose set forth and described.

**67,010.**—R. W. WHITNEY and JOSEPH P. DAVIS, South Berwick, Me.—*Nutmeg Grater*.—July 23, 1867.—The nutmeg in its cell is pressed by the spring follower against the roughened face of the rotating disk.

*Claim.*—The follower D suspended upon the bent elastic wire E, in combination with the handle A and rotary grating disk C, all arranged and operating substantially as described.

**67,011.**—McCLINTOCK YOUNG, Frederick, Md.—*Knife Sharpener*.—July 23, 1867.—Three files are

adjustably arranged in the handle to form the abrading surfaces.

*Claim.*—A knife sharpener in which the files are used for the abrading or reducing surfaces, and which files are adjustable therein, so as to present new surfaces when the others are worn out or become clogged, substantially as described.

**67,012.**—ISRAEL YOUNT, Gettysburg, Pa.—*Medical Compound*.—July 23, 1867.—Remedy for diphtheria, composed of gunpowder, 7 parts; alum, 3; sulphur, 2; epsom salts, 1; rhubarb, 1.

*Claim.*—The medical compound as above described, substantially as and for the purpose specified.

**67,013.**—W. W. ADAMS, West Derby, Vt.—*Washing Machine*.—July 23, 1867.—One end of a garment is passed beneath the cord on the reel, and as the latter is revolved is wound thereon, being pressed by the fluted roller against the slats of the reel.

*Claim.*—The combination of the reel cylinder C, fluted roller H, and pivoted frame G with each other and with the box or tub A, substantially as herein shown and described and for the purpose set forth.

**67,014.**—J. A. AYRES, Hartford, Conn., assignor to NATIONAL SCREW COMPANY, same place.—*Screw Driver*.—July 23, 1867.—Explained by the claim and illustration.

*Claim.*—A screw driver with a dove-tailed edge, substantially as herein described.

**67,015.**—JACKSON R. BAKER, Jersey City, N. J.—*Window Blind Fastener*.—July 23, 1867.—On a plate attached to the jamb is a spring-catch, which engages the movable leaf of the open shutter.

*Claim.*—The combination of the fastening C F E with the strap D of the hinge and plate G, substantially as herein shown and described for the purpose specified.

**67,016.**—HERMAN BELMER and C. H. S. SCHULTZ, Cincinnati, Ohio.—*Dog Muzzle*.—July 23, 1867.—The loops which attach the basket to the collar are adjustable in length and are tied in the required position by flexible wire.

*Claim.*—First, an adjustable dog muzzle constructed substantially as and for the purpose specified.

Second, the combination in a dog muzzle of the flexible wires A and strap or collar C, substantially as and for the purpose set forth.

Third, the provision in a dog muzzle of loops *a* in the manner and for the purpose set forth.

**67,017.**—ISAAC BOONE, Troy, Ohio.—*Fence*.—July 23, 1867.—The rails are fastened to battons and the panels thus formed are tied by stay wires to the sills.

*Claim.*—An adjustable fence consisting of the rails A, battens B, base pieces C, pins F, and wedges G, when used in connection with the brace wire H, as and for the purpose set forth.

In combination with the elements of the preceding clause, the serial holes J for the ready adjustment of braces H to enable a fence to suit any variable surface of ground, as and for the purpose stated.

**67,018.**—JOHN BRIGGS, Roxbury, Mass.—*Steam Engine Globe Valve*.—July 23, 1867.—The two ends of the case are separated by a pocket partition which affords two seats for the respective taper plug valves on the same stem, which are entered from below. The valve is nearly balanced, the difference in pressure being equal to the difference between the upper and lower surfaces exposed to the steam on the reception sides of the pocket partition.

*Claim.*—The valve constructed and arranged with the pocket partition between the outlet and inlet and with the taper plug valve, substantially as described.

Also, in combination therewith, the changeable fulcrum post and lever for the purpose specified.

**67,019.**—ALDEN BRIGHAM, Cold Brook, Mass.—*Dust Pan*.—July 23, 1867.—The pan is widest at the lip, and its converging sides are united by a bridge piece to which the handle is attached.

*Claim.*—A dust pan in which the bottom B, conveying sides C, and inclined back D, are arranged as described and shown in the accompanying drawings.



**67,020.**—CHARLES B. BRISTOL, New Haven, Conn.—*Snap Hook*.—July 23, 1867.—The pivoted tongue is closed by a spiral spring which is sleeved upon studs on the tongue and the bridge piece of the hook.

*Claim.*—The combination of the hook and loop part (having a bridge *b* and stud *c*) with the tongue part having a stud *e* and the spiral spring *d*, when the parts are constructed, arranged, and fitted to operate substantially as herein described and set forth.

**67,021.**—W. E. BROCK, New York, N. Y.—*Stand for Displaying Clothing*.—July 23, 1867.—Explained by the claim.

*Claim.*—A dummy for displaying articles of dress formed of sheet metal struck up in sections and secured together in any suitable manner substantially as described.

**67,022.**—LUCIUS CARRIER, Providence, R. I.—*Pasteboard Box*.—July 23, 1867; antedated July 19, 1867.—The sides are made of one piece of pasteboard, being bent round the corners and one end dovetailed into the other.

*Claim.*—Making the sides and corners of pasteboard and similar boxes by cutting and bending the flap *a* or its equivalent to form the corner and uniting the said flap with the adjoining side by dovetailing the two parts substantially as described for the purpose set forth.

**67,023.**—VICTOR CHARLET, Hoboken, N. J.—*Stud and Button Fastening*.—July 23, 1867.—The knob on the end of the plate holds it while the head and lower plate are being rotated, locking the fastening open or closed as desired.

*Claim.*—The head *A*, having the revolving and stationary plates provided with the locking device adapted to be locked open or closed in the manner substantially as and for the purpose specified.

**67,024.**—JAMES B. CLARK, Plantsville, Conn.—*Making Solid Blanks for Wagon Shackles*.—July 23, 1867.—The bar is corrugated in the direction of its width to give its edges a wavy outline; it is then slit and divided, so as to form blanks whose arms shall have their fibers in the direction of their length.

*Claim.*—The method of making and forming the solid blanks for wagon shaft shackles of one piece of metal, the grain thereof running parallel or nearly so with the direction of each arm, substantially as set forth.

**67,025.**—G. F. J. COLBURN, Newark, N. J.—*Composition for Dental Plates*.—July 23, 1867.—Composed of gum shellac, 1 oz.; asbestos, 7 dwts.; oxide of zinc, 6 dwts.; sulphur, 1 dwt., 6 gr.; chalk, 1 dwt.; pulverized and fused. It is molded into form while softened by heat.

*Claim.*—A composition for the plates of artificial teeth, composed of the ingredients Nos. 1 and 2 with any suitable coloring substances such as Nos. 3 4 5, substantially as set forth.

**67,026.**—G. F. J. COLBURN, Newark, N. J.—*Base for Artificial Teeth*.—July 23, 1867.—A composition of gum shellac, 2 parts; asbestos, 1 part; oxide of zinc, 1 part, is combined with a metallic plate as a base for artificial teeth.

*Claim.*—First, a base for artificial teeth, composed of the composition herein described and a metallic plate, arranged or combined substantially as set forth.

Second, a base for artificial teeth, having its under or lingual surface composed of the composition set forth and applied to a metallic plate, substantially as shown and described.

Third, the composition herein specified, when used for attaching one or more teeth and gums to a metallic or other base for artificial teeth.

**67,027.**—JOSEPH COLLETT, Williamsburg, N. Y., assignor to himself and I. SMITH, same place.—*Steam Engine Lubricator*.—July 23, 1867; antedated July 15, 1867.—A steam passage opens into the upper part of the reservoir and the grease has a separate passage. These passages have independent valves. The upper valve, when the cap is removed, prevents the escape of steam.

*Claim.*—First, the combination of the steam way or passage *c c* and grease passage or passages *e f* with their valves *I J*, arranged for action in connection with the reservoir and grease outlet or discharge chamber, substantially as specified.

Second, the valve *J*, the steam way or passage that admits steam to the upper portion of the reservoir, in combination with the stopper or cover to the lubricator, so arranged in relation thereto that said cover being shut uncloses and retains open the valve, essentially as and for the purpose herein set forth.

Third, in combination with the grease discharge valve *I*, that closes by the action of the steam, the hand adjustable valve *H*, for joint or separate action, as herein set forth.

**67,028.**—EZRA F. CONNER, Greensburg, Ind.—*Wagon Bed*.—July 23, 1867.—The side wings of the extension apron are hinged to the bottom and hooked to the rear ends of the side boards of the wagon.

*Claim.*—An adjustable extension of a wagon bed, consisting of the several parts *D E* and *F*, arranged to operate substantially in the manner and for the purpose set forth.

**67,029.**—SOLOMON DAVIDSON, New York, N. Y.—*Tongues for Breastpins, &c.*—July 23, 1867.—The base plate has two lugs attached to one side and an eye on the opposite. The tongue is inserted and riveted in the perforated lugs.

*Claim.*—The base *a* provided with ears or lugs *b* and an eye *c'*, in combination with the tongue *B*, constructed and operating substantially as and for the purpose set forth.

**67,030.**—MARCUS L. DELAVAN and JOB DYSON, New Britain, Conn.—*Door Bell*.—July 23, 1867.—The rotation of the handle brings a stud on the wiper beneath the cam on the slide, and raises the latter, which returns by the force of the spring as soon as the stud passes the cam. The hammer is attached to the slide, and is limited in its motion by a stop.

*Claim.*—First, making the socket which receives the end of the tongue solid, with the base *a*, substantially as and for the purpose set forth.

Second, the combination with the slide *F*, or its equivalent, carrying or operating the hammer *G* of the vibratory or oscillating cam *I*, controlled by a stop or stops as described, and wiper *J* or its equivalent for operation together by the turning or rotation of the handle *B* in either direction to strike the bell, substantially as specified.

**67,031.**—GILBERT AUGUSTE FOURNIER DES CORATS, Paris, France.—*Loading and Unloading Vessels*.—July 23, 1867.—The loaded cars are drawn by the engine on to a turnable on the deck of the vessel, and are lowered into the hold by vertical screws, actuated by the engine, which connects therewith by a system of gearing. The vessel is unloaded by the same means.

*Claim.*—First, the vertical screws *d* in the vessel *a*, having gear wheels *h*, provided with nuts *e*, operated by means of the endless screws and longitudinal rods, arranged in such a manner that two or more tiers of cars may be supported in said vessel, and raised or lowered substantially as described for the purpose specified.

Second, the combination of the turn tables *j*, rails *l*, traction chains and pulleys *h o*, opening boards *k*, arranged in relation to the vessel *a*, and operated as herein described for the purpose specified.

**67,032.**—ALBERT M. DEXTER, Philadelphia, Pa., assignor to ISAAC TOWNSEND, same place.—*Bread Cutter*.—July 23, 1867.—The cutter is attached to the edge of the table. The gauge is adjusted by a set screw. The bread is held against the gauge, and the knife is actuated by the crank handle. The automatic action of eccentrics in connection with the crank shaft removes the gauge to let the slice fall, and resets it for the next slice.

*Claim.*—First, in a bread cutter the use of a gauge lever, operated by the knife shaft in combination with the gauge shaft, furnished with teeth meshing on the toothed segment of the lever.

Second, the crank handle *C*, riveted to the knife handle at one end, and secured to the knife shaft at the other, as and for the purpose herein specified.



**67,033.**—JULIUS ELSON, Boston, Mass.—*Breech-loading Fire-arm.*—July 23, 1867.—The sliding breech is adjusted to its place for firing, and removed therefrom after the discharge, and the cartridge shell is retracted from the rear of the barrel by the action of the hammer.

*Claim.*—First, the device for releasing the breech block from the position required for discharging the gun, and returning to the same position, and at the same time retracting the cartridge shell, consisting of the vertical sliding breech block *g*, to which one end of a coiled spring *h* is attached, the hammer *H* operating the levers *i* and *K*, the latter provided with a hinged piece *K*<sup>1</sup> and spring *K*<sup>2</sup>, which act on the bell crank lever *l*, and operating also the plate *b*, with the wheel *a* and pin *f*, all constructed and arranged as described.

Second, the combination of the plate *b* with the wheel *a*, constructed as described, the springs *d* and *p*, click *c* and the bar *f*, as and for the purpose described.

Third, the lever or arm *K*, constructed as described, in combination with the levers *l m* and *o* and pin *n*, the same composing the mechanism for retracting the cartridge shell.

Fourth, the projections *c' c''* on the barrel *c*, and the hinge *B'*, by means of which the barrel is secured to the stock as described.

**67,034.**—ROBERT FITTS, Jr., Fitchburg, Mass., assignor to WALTER HEYWARD CHAIR COMPANY, same place.—*Office Chair.*—July 23, 1867.—The bent legs are secured to the pedestal nut, to which the pivoted spider frame and cross-head are attached by the adjustable supporting screw. The follower attached to the spider presses the spiral spring when the seat is thrown back.

*Claim.*—First, the bent wood legs *E E*, in combination with the pedestal nut *D*, constructed and secured together substantially as described.

Second, the cross-head *C* of the screw *a*, pivoted to the spider *B*, in combination with the seat *A*, constructed and operating substantially as and for the purpose herein described.

Third, the combination of the cross-head *C*, the spider *B* and the spring *c*, arranged and operating substantially as herein described.

**67,035.**—RICHARD FOLEY, New York, N. Y., assignor to himself and EDWIN FERGUSON, same place.—*Tunnel.*—July 23, 1867.—The tube of wrought iron is made on shore in sections of convenient length; these are floated over their intended position, where they are sunk, and are joined together by folding collars packed with rubber to prevent leakage. The double walls of the tube are united by ribs and angle irons. A sewer at bottom empties into the space between the walls.

*Claim.*—First, the construction and arrangement of a tunnel, when composed of an outer and inner skin or lining of metal supported in position by means of the angle iron ribs, in the manner and for the purpose herein described.

Second, the construction and arrangement of a tunnel as herein described, when made in sections, which are united and held in position by the collar *m*, which overlaps the ends of adjoining sections, in the manner and for the purpose herein described.

Third, the construction and arrangement of the sewer *f*, when used in combination with a tunnel, in the manner and for the purpose herein described.

**67,036.**—DAVID FORREST, Eastport, Me., assignor to himself and JAMES ELDRIDGE, same place.—*Car Wheel.*—July 23, 1867.—The tire has pins upon its inner side, which enter slots in the rim of the wheel to hold the tire from shifting. The flange piece has a shoulder projecting on the inside that fits in a circular groove in the body of the wheel to which it is bolted.

*Claim.*—The combination and arrangement of the body *A*, having an annular groove, removal annular flange piece or guard *C*, having flange *c*, rim *B*, having pins fitting into the transverse slots *F*, in the periphery of the body *A*, all constructed as described, whereby the rim *B* is screwed in place by means of the guard *C*, and reversed by removing said guard, substantially as described for the purpose specified.

**67,037.**—HENRY GETTY, Brooklyn, N. Y.—*Pump.*—July 23, 1867.—The body of the pump is divided into two cylindrical chambers, separated by a stuffing box partition. The hollow plunger has a piston and valve at its lower end, working in the lower perforated chamber. It is a direct acting lift and force pump, with only two valves, and has a straight passage for the water.

*Claim.*—The hollow plunger *P*, acting in its up stroke as a solid ram, and in its down stroke as a water passage, provided with a valve and piston packing at its lower end, and working in the cylindrical chamber *A B*, provided with an annular collar at the point of their junction, forming a stuffing box through which said plunger *P* reciprocates, all arranged and operating substantially as set forth.

**67,038.**—ALFRED GIFFORD and ROBERT L. FELTZ, Milroy, Ind.—*Saw-mill.*—July 23, 1867.—As the saw is operated through the medium of the crank pulley and slotted arm, the log is fed to it by the pawl, it being vibrated by the lever with which the pulley is connected by a rod. The length of stroke of the pawl is regulated by adjusting the rod in the slot of the lever by the cord, the inner end of the pawl being kept in position by the spring.

*Claim.*—First, the arrangement of the driving pulley *O*, rod *N*, slotted lever *M*, pulleys *I L*, belt *K*, the shafts *B J*, pawl *O* and spring *P*, to operate in the manner and for the purposes specified.

Second, the adjusting of the inner end of the pawl *O*, by means of the spring *P* and cord *m*, and the lever *Q*, or its equivalent, substantially as and for the purpose set forth.

**67,039.**—JOHN GOLDING, New York, N. Y.—*Life Preserving Mattress and Raft.*—July 23, 1867.—The boxes may be united by snaps and hooks, and are formed with water-tight and provision compartments to serve as floats.

*Claim.*—The combination of the mattress bed *A*, with the floating box *B*, the latter having the compartments *c c*, and being constructed of cork as described, and provided with snaphooks and eyes or their equivalents, the whole being constructed and arranged substantially as and for the purposes specified.

**67,040.**—CHRISTIAN G. GRABO, Detroit, Mich.—*Potato Digger.*—July 23, 1867.—The shovel is adjusted by the crank screw to the desired depth for scooping up the potatoes. These are projected over the screen bars by the finger wheel, and pass over the vibrating screen that sifts out the small potatoes into a box below. A bag is attached to the rear of the screen to receive the potatoes.

*Claim.*—First, the shovel and catcher *H*, constructed as described, in combination with the finger wheel *R*, and with the frame *A* of the machine, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the receiving and separating box *M*, furnished with an upper grate or screen *m*<sup>1</sup>, and lower screen *m*<sup>2</sup>, with the frame of the machine, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the supporting board *N* with the frame *A* of the machine, and with the receiving and separating box *M*, substantially as herein shown and described and for the purpose set forth.

**67,041.**—A. B. GRAHAM, Waukegan, Ill., assignor to himself and WILLIAM B. and CYRUS A. WORDEN.—*Harvester.*—July 23, 1867.—The jointed wing of the clearer attached to the end of the finger-bar lifts the lodged grain and brings it within the scope of the sickle. The oblique arms on the fingers keep the straw from choking between the sickle and fingers.

*Claim.*—First, the clearer *V*, when attached to the end of the finger bar *I* and provided with the wing *W*, substantially as and for the purpose set forth.

Second, the oblique arms *a' a'* at the upper parts of the fingers *k*, in connection with the arms *b' b'* at their under sides, substantially as and for the purpose specified.



**67,042.**—W. M. GREENWOOD, Cincinnati, Ohio.—*Training Hopple.*—July 23, 1867.—The pads are strapped around the pastern and above the knee respectively, and are connected to each other by a rubber band rove through a staple on the upper pad, and regulated as to length by the buckles on the lower pad.

*Claim.*—The arrangement of pads A and D, straps and buckles B C E F, and elastic band G, as and for the purpose set forth.

**67,043.**—L. GRISWOLD, Portland, and G. CAUL, York, Wis.—*Cut-off Valve.*—July 23, 1867.—When the crank of the engine is on its center the piston-valve rod in the middle cylinder is operated by hand to throw the force of the steam upon either of the valves in the lower cylinder. The rod in the upper cylinder is moved by hand to open or close either of the ports. The pressure of steam is balanced upon the cut-off valves in the lower cylinder.

*Claim.*—First, the cylinders C E and F, with the piston valves and rods, constructed and arranged substantially as described, for the purposes set forth.

Second, in combination with the above, the pipe t, as herein set forth, for the purpose specified.

**67,044.**—A. W. HALL, New York, N. Y.—*Door Fastening and Knife.*—July 23, 1867.—The pivoted gimlet-screw folds down into a recess at the knife back, and when extended may be screwed into the door jamb, and form a button to fasten the door.

*Claim.*—A pocket knife provided with a pivoted or hinged screw, whereby it is made to subserve the purpose of a door fastener, substantially as specified.

**67,045.**—JOSEPH L. HALL, Cincinnati, Ohio.—*Safe.*—July 23, 1867.—The casing and door have counter grooves so that their abutting faces when the door is closed are rabbeted together and prevent the entrance of a wedge. The free edge and top and bottom of the door have a groove which receives an outwardly projecting rib of the case. The bolt passes through the door and the locking of the same does not remove its rear end from its recess at the hinge side.

*Claim.*—First, the bolt or bolts C, and the casing A, constructed with mortises *i* and *i'* to receive the bolt or bolts C when thrown in either direction, substantially as and for the purpose herein described and set forth.

Second, constructing one or more of the plates composing the door, or doors, and jambs, rabbets, or casings of safes, or other receptacles, with the tenons and grooves entering and fitting each other when the doors are closed, for the purpose of obstructing the entrance to the safes, as herein described.

**67,046.**—JOSEPH L. HALL, Cincinnati, Ohio.—*Connecting Doors and Casings of Safes.*—July 23, 1867.—The conical arbors traverse the casing, being screwed fast in the inner plates, and keyed to prevent unscrewing. By their conical form they take firm hold of each plate in the series. Dovetails on the plates enter counterpart recesses to interlock the contacting portions.

*Claim.*—First, constructing the abutting edges of doors and casings of safes and other secure receptacles with dovetails *g*, closely fitting corresponding mortises *g'*, substantially as and for the purpose herein described and specified.

Second, in the series of plates in the doors of safes, the plate or plates F, having their hinged ends projecting over the plates immediately outside of them, and so arranged that they shall enter a rabbet in the body of the safe when the door is closed, and the bolt plate H, when the same are constructed and operated substantially as specified.

Third, the conical or tapering arbors 1 in combination with two or more plates of metal in the doors and casings of safes and other secure receptacles, the arbors being secured in the plates by keys 2, or in other substantial manner.

Fourth, the combination in the doors and casings of safes of one or more sets of dovetailed plates and angle iron B and C, one or more plates F, and bolt plates H, and conical or tapering arbors 1, secured by means of keys or rivet heading upon the inside of the safes, when the same are arranged substantially as herein described and for the purpose specified.

**67,047.**—T. C. HARGRAVE, Boston, Mass., assignor to himself, F. F. BIBBER, and R. W. BIBBER, same place.—*Boat Detaching Tackle.*—July 23, 1867.—A stationary block is hung at each end of the boat having a swing tumbler with a semi-circular notch at its lower end into which the tackle hook enters. The tumblers are locked by sliding longitudinal rods connected to a lever, by which they are simultaneously withdrawn and the boat released.

*Claim.*—In combination with the sliding rods *k* and lever *l*, the stationary blocks having swing tumblers in notches of which the tackle rings are held, these tumblers being locked in position and operated to detach the boat, substantially as set forth.

**67,048.**—JOHN R. HARRINGTON, Brooklyn, N. Y., assignor to GEORGE W. CHIPMAM, same place.—*Manufacture of Carpet Lining.*—July 23, 1867.—Improvement on his patent, April 1, 1856, (No. 14,585.) The fibrous material is formed into a bat and is received between sheets of paper that pass between the presser rolls. One of the strips of paper enclosing the batting is folded over and cemented on the other.

*Claim.*—Combining with paper rolls from which the strips to enclose the lap or fibrous material are fed, the card cylinder and cylinder screen for forming the lap, the whole being arranged and operating together substantially as described.

Also, forming or constructing a carpet lining by inclosing the lap between a wide and a narrow strip of paper and bending the projecting edges of the wide strip over upon and cementing or securing them to the surface of the narrow strip, substantially as set forth.

Also, the arrangement of the cement cylinder and its rolls, in connection with the feed guide and paper rolls, substantially as described.

Also, the method of folding the lining, substantially as set forth.

**67,049.**—R. S. HARRIS, Dubuque, Iowa.—*Snow Plow.*—July 23, 1867.—The inclined supporting ear has endless chains of buckets in the elevator boxes which carry the snow from the flaring scoop in front to the guide spouts that discharge outside the track. Rotating cutters loosen the ice.

*Claim.*—The combination of the inclined supporting ear A, inclined elevator boxes C, endless chain of buckets F, flaring scoop B, ice and snow cutters I J, and guide spouts E, substantially as described for the purpose specified.

**67,050.**—C. B. HARTFIELD, Philadelphia, Pa., assignor to NORMAN M. KERR and B. W. BEESLEY, same place.—*Machine for Making Paper Boxes.*—July 23, 1867.—For making paper boxes whose top and bottom project beyond the cylindrical body. By means of the rotating fixed chuck, a rotating traversing follower, and a vibrating head holder, the sides and head are united at one operation.

*Claim.*—First, a chuck or box holder A arranged to rotate in a fixed position outside of the frame P, substantially as described.

Second, the combination, substantially as described, of a slotted chuck rotating in a fixed position with a presser-off rotating concentrically with the chuck, having an endwise motion on its axis.

Third, a vibrating head holder or disk receiver, arranged substantially as described, for the purpose of holding the disk to form the head of the box against the ring constituting its sides.

Fourth, the combination, substantially as and for the purpose described, of a vibrating disk receiver or head holder with a vibrating holding frame.

Fifth, the combination of the chuck A, flanged and grooved former B, and sliding frame C, when arranged and operating substantially as described.

Sixth, the combination, substantially as described, of a chuck rotating in a fixed position outside the frame, a rotating former mounted in a traversing frame, and a vibrating head holder or disk receiver, for the purpose of uniting the head and sides of the box by a single continuous operation.

**67,051.**—CHARLES B. HATFIELD, Philadelphia, Pa., assignor to NORMAN M. KERR and B. W. BEESLEY, same place.—*Machine for Making Paper Boxes.*—July 23, 1867.—For applying and smoothing the covers of boxes previously partly made. The box is



placed on the chuck and the glued cover is placed on the pad and the two pressed together. The chuck is revolved while a glued strip is wound on the box, the brushes turning down the projecting edges of the paper.

*Claim.*—First, the combination, substantially as described, of the cover pad or receiver E with the yielding ring F, for the purpose set forth.

Second, the combination, substantially as described, of the holding chuck, vibrating pad, and yielding rings, for the purposes set forth.

Third, the combination, substantially as described, of the holding chuck A, turning brush B, and smoothing brush C, for the purposes described.

Fourth, the smoothing brush C, arranged on an inclined adjustable shaft, as and for the purpose described.

Fifth, the combination, substantially as described, in a machine for making paper boxes, of a vibrating pad, a chuck projecting beyond its supporting frame and rotating in a fixed position, a brush to turn down the inner edge of the cover, and an auxiliary smoothing brush revolving inside the box, for the purpose of finishing the covering of the box without removing it from the machine.

Sixth, a revolving brush for turning down the edge of the covering paper, substantially in the manner described.

Seventh, a brush rotating within the box, substantially as described, for the purpose of smoothing the turned down edge of the paper.

**67,052.**—EDWARD J. HILL, Milwaukee, Wis.—*Putting up Matches.*—July 23, 1867.—The matches are held between the leaves of a book which are made of sand paper to ignite the matches on withdrawal.

*Claim.*—First, the use of india-rubber or gutta-percha to produce either friction or percussion in the manufacture and construction of match safe cases, wrappers, or holders, or for safes, cases, or wrappers or holders for tapers and for gas, lamp and cigar lighters.

Second, the use of folded sand paper or layers or leaves thereof, or of any other suitable material, in combination with india-rubber or gutta-percha to produce friction or concussion in such manufacture.

Third, the book-like form of constructing safes, cases, wrappers, and holders, matches, tapers, and cigar, gas, or lamp lighters, substantially as herein described.

Fourth, the mode of protecting the pasted or dipped ends of matches, tapers, and lighters by a wrapper of folded paper or any other suitable material, substantially as herein described.

Fifth, the use of folded paper, cloth, leather, or any other suitable material, to protect the ends of the matches, tapers, or lighters, in combination with leaves, layers, or folds of sand paper or any other suitable material, substantially as herein described in such manufacture.

Sixth, the combination of the folded or protection wrapper with leaves or layers of sand paper, or any other suitable material, and india-rubber or gutta-percha, or its equivalent, substantially as herein described.

**66,053.**—CHARLES F. HITCHINGS, New York, N. Y.—*Boiler for Heating Buildings.*—July 23, 1867.—The boiler is formed of two cast metal sections with a vertical joint and internally projecting water-courses between the fire chamber and the return flue. The water bridge is attached to one side only of the boiler by upper and lower branches.

*Claim.*—First, the fire chamber A and return flue D of the boiler constructed of two hollow shells or divisions F F, united by a vertical joint as described, and having projecting chambers G G', arranged to form the crown to the fire box and lower surface to the return flue, substantially as specified.

Second, the water bridge C, connected and communicated by upper and lower branches with one side or half of the body of the boiler, but loose or detached from the other half or division thereof, essentially as described.

Third, the water tubes K, arranged to cross the return flue, connected and communicating with but the one half or division of the water body or case of the boiler, as herein set forth.

**67,054.**—JOHN B. HOAG, Oxford, Ill.—*Horse Rake.*—July 23, 1867.—The lock block on the sliding rod engages the fingers and tilts the rake till the front fingers catch the ground and rotate it.

*Claim.*—The sliding rod c, in combination with the staple d in the handle C, the lock block D, and catch rod e, arranged and operating substantially as and for the purposes herein described.

**67,055.**—J. HOLZMAN, New York, N. Y.—*Extension Bedstead.*—July 23, 1867.—The slats and also the rails are made in two parts, connected by straps so as to be extensible.

*Claim.*—First, constructing a bedstead so that it can be either lengthened or widened at will, or both lengthened and widened, substantially as herein shown and described.

Second, making the side bars A A on each side of the bed of two pieces, and connecting the same by means of loops formed on the slats or independently, as described.

Third, making the bars or rails E E, which form the heads of the bedsteads, of two pieces, so that the bedstead can be widened, as set forth.

Fourth, so constructing a bedstead by securing a longitudinal and a cross-bar to each of the posts, the other ends of these bars being free, and arranging the slats extensibly, that the bedstead can be extended or contracted at will and be folded, as set forth.

**67,056.**—WILLIAM H. HUMPHREY, Lansingburg, N. Y.—*Faucet.*—July 23, 1867.—A thick ring of rubber surrounds the pivot on which the gate turns so that the gate can be tightened when worn. An elastic packing is placed between the disk and the lever handle; a wedge-shaped slide binds the gate more closely, and stops limit the movements.

*Claim.*—A faucet consisting of the body A, slide K, with its stops, lever handle D F, detachable disk e, spring G, and projection M N, with its stops, all constructed and arranged as hereinbefore specified and described.

**67,057.**—WARREN JOHNSON, Fisherville, N. H.—*Device for Tethering Animals.*—July 23, 1867.—The pole is connected by a swivel to the collar of the sleeve on the stake, and is weighted at the far end to maintain its equilibrium.

*Claim.*—The swivel for connecting the pole E to the upright or stake A, the same consisting of a tube B, with a collar C, permanently attached and secured on the upright or stake, and a collar D, fitted loosely on the tube and provided with a hook projection to bear or rest upon the fixed collar C, substantially as shown and described.

**67,058.**—SIMON KAUFMAN, Fairbury, Ill.—*Scouring and Scrubbing Machine.*—July 23, 1867.—The rollers have rubber tire, and their rotation, caused by rolling over the floor, gives reciprocation to the brushes which are connected to the rollers by a wrist pin and connecting rod.

*Claim.*—First, the brush or scrubber f, or its equivalent, set in a block C, in combination with a slotted frame A, and having a reciprocating motion imparted to it by the driving wheel D, or in any equivalent manner, operating in manner and for the purposes substantially as herein shown and described.

Second, the block frame B, carrying the brushes or scrubbers f, or their equivalents, in combination with the slotted frame A, in manner substantially as and for the purposes described.

Third, the slotted frame A, handle H, cross-piece C, all as set forth, and their respective equivalents, in combination with the driving wheels D and axle E, block frame B and crank d, and their respective equivalents, substantially as herein shown and described.

**67,059.**—HENRY KEWLEY, Perry, Ohio.—*Tubing Clamp.*—July 23, 1867.—The jointed clamp surrounds the pipe, the lower end of the lever pawl acting as a brake on its descent. The upper end of the pawl comes into action as a fixed support, or assists in raising the pipe.

*Claim.*—The collar J, jointed sections A B, pawl D, lever E, and spring F, arranged in relation to each other in the manner and for the purpose set forth.



**67,060.**—G. KING, J. GOMBER, and L. T. SHOPE, Frederick, Md.—*Sash Fastener*.—July 23, 1867.—The sashes have ratchet racks forced by springs, carrying anti-friction rollers to engagement with projections from the strips. The sash may be freely raised, but when lowered must be forced from the projections.

*Claim.*—The arrangement of racks *b b* fastened on the sides of the sashes B, behind the molding A, and held engaging with the metal projections *c* upon the inside of wooden frame by means of the springs *d d*, having rollers, all constructed, described, and arranged in such a manner that the sashes shall be pressed outwards to raise or lower, as herein set forth.

**67,061.**—J. F. KOHLER and S. B. CONOVER, New York, N. Y.—*Pie Plate*.—July 23, 1867.—The detachable plate which supports the pie is perforated so as to render it worthless for other purposes and insure its return from the retailer.

*Claim.*—The plate constructed in two portions in such manner that one portion may be detached to separately support the pie or like article, substantially as herein set forth.

**67,062.**—JOHN F. LITTLE, Lockport, N. Y.—*Barrel Cresset*.—July 23, 1867.—For forming barrels. Explained by the claim and illustration.

*Claim.*—The annular base A, in combination with the perforated fire cylinder B and grate *I*, constructed, arranged, and operating substantially as and for the purpose set forth.

**67,063.**—A. A. McMORE, Brooklyn, N. Y.—*Desk and Table*.—July 23, 1867.—The slanting top and the back of the desk become the flat top of the table when the transformation is made.

*Claim.*—First, the parts of the table top B and C attached to the frame A, arranged and operating substantially as and for the purposes described.

Second, the case D attached to the part C, substantially as described.

**67,064.**—JAMES P. MORRIS, Bloomington, Ill.—*Car Coupling*.—July 23, 1867.—The jaws of the bumper are open at the sides, and have ledges to hold the link block and catches to sustain the link laterally. When a car leaves the track the coupling connection is severed.

*Claim.*—First, a bumper, constructed after the manner as shown herein, with ledges *b b*, recess C, catches D D, spring E, substantially as and for the purpose specified.

Second, the combination of the bumper, link, link block, and the several parts of each to each other, substantially as described for the purposes specified.

**67,065.**—WILLIAM H. MORRIS, Cold Spring, N. Y.—*Cartridge Box*.—July 23, 1867.—When the cartridges are exhausted from the upper block it is turned out, and exposes the cartridges in the block beneath.

*Claim.*—First, the employment or use in a cartridge box of two or more blocks B, provided each with one or more rows of holes to receive the cartridges, and connected together by hinges or joints, substantially as and for the purpose set forth.

Second, having the upper and lower surfaces, either or both, of the block rebated or ground longitudinally, so as to form planes of different heights, one for each row of cartridge holes, to admit of the ready withdrawal of the cartridges from the blocks, substantially as shown and described.

**67,066.**—THOMAS W. MURRAY, New York, N. Y.—*Rudder*.—July 23, 1867.—The straps by which the rudder is connected to the post slide in recesses, to allow vertical movement of the same without unshipping.

*Claim.*—First, a rudder for vessels, provided with a cast-iron post A, having a flange or projection *a* into a wooden blade B, which is secured to the post by metal strips *e e*, substantially as and for the purpose specified.

Second, the rudder post A, when secured to the stern posts C by means of the metal straps *g* in the recesses *i*, in such a manner that the said posts are allowed vertical play without unshipping or becoming detached, as herein shown and described.

**67,067.**—JAMES H. ORR, Long Island City, N. Y., assignor by mesne assignments to himself and LEWIS GRAVES.—*Chamber Pail*.—July 23, 1867.—The flange attachable to the top of the pail facilitates its use. The sliding cover below the flange of the seat covers the pail to enclose noxious smell before rising therefrom.

*Claim.*—First, the top piece or cover E, constructed as described, its lower edge or flange resting upon the ring D, upon the inside of the pail, and having its opening *F* immediately over the sliding plate H, as herein described for the purpose specified.

Second, in combination with the sliding doors K and cap or top plate E of a chamber pail, the sliding plate or cover H, substantially as described for the purpose specified.

**67,068.**—JACOB D. C. OUTWATER, Newark, N. J.—*Potato Digger*.—July 23, 1867.—The tines attached to the rear of the plow curve over to deliver the potatoes to the side of the track. The cam shaft actuated by an endless band connecting with the roller vibrates the tines. The coulter is adjusted in front for opening the ground and gathering the stalks.

*Claim.*—First, the combination of curved tines with the share, substantially as described.

Second, the combination of curved tines and geared mechanism for operating them with the share, substantially as described.

Third, the combination of curved tines and geared mechanism with the share and its sole, substantially as described.

Fourth, the combination of all the last-mentioned elements with the coulter, substantially as described, with the pointer roller H.

**67,069.**—B. R. PLATT and J. A. GRAY, Holland, Mich.—*Washing Machine*.—July 23, 1867.—The concave roller frame is supported on a hinged frame, and acts in combination with the rotating fluted roller.

*Claim.*—The double-concave reversible roller frame C, constructed as described, in combination with the hinged frame F and with the box or tube A, substantially as and for the purpose herein set forth.

**67,070.**—WM. PORTER, Belleville township, Pa.—*Lamp*.—July 23, 1867.—Water is placed in the bottom of the lamp, and a safety pipe inserted through the top reaches nearly to the bottom, so that in case of an explosion the water is forced up the tube, giving vent for the oil.

*Claim.*—First, relieving the internal pressure in a lamp through the agency of water, or its equivalent, operating substantially as described.

Second, the tube T and reservoir R, or their equivalents, placed in connection with a lamp, and operating substantially in the manner and for the purposes herein set forth.

Third, the float F, or its equivalent, attached to the wick, substantially as and for the purpose described.

**67,071.**—LOUIS POSTAWKA, Boston, Mass., assignor to himself and A. J. WONDRA, New York, N. Y.—*Railroad Spike*.—July 23, 1867.—Explained by the claim.

*Claim.*—The spike B, its upper part square, and its lower round part *b* split longitudinally, forming prongs *d d*, beveled upon their inner sides, and separating when driven into the wood in a place coincident with the axis of said spike, as herein shown and described.

**67,072.**—DAVID H. PRIEST, Watertown, Mass., assignor to himself and GEORGE FARWELL, North Bridgewater, Mass.—*Sad Iron*.—July 23, 1867.—The sad iron has a face of iron and one of soapstone; either may be placed in position for use as the handle swivels on its pivots. An air chamber is between the two faces.

*Claim.*—First, the combination and arrangement of the stone A and the iron B, as applied to a sad iron, substantially in the manner and for the purpose above set forth.

Second, the cold-air chamber C, constructed and arranged and as applied to a sad iron, substantially in the manner and for the purpose above set forth.



**67,073.**—ALBERT REED, Mankato, Minn.—*Lath Frame*.—July 23, 1867.—The laths are placed between the pins upon the frame, which is then raised to the wall and the laths nailed fast.

*Claim.*—A lath frame, constructed substantially as and for the purpose described.

**67,074.**—THOMAS ROWE, New York, N. Y.—*Quartz Mill*.—July 23, 1867.—The step of the drive shaft has numerous radial openings presenting at the outside narrow slots, which refuse passage to insufficiently comminuted particles. The openings flare inward and have central vertical discharge to a conveyor beneath. The water is supplied by the buckets of a wheel rotating in a tank.

*Claim.*—The arrangement of a central discharge in the collar E, which forms the step for the vertical shaft D, carrying the mullers B and the rakes G H, substantially as and for the purpose described.

**67,075.**—JAMES A. SINCLAIR, Woodsfield, Ohio, assignor to himself and WESTERN T. SINCLAIR, same place.—*Broom Head*.—July 23, 1867.—The straw is clamped in a wire frame attached to a wooden head block by sheet metal.

*Claim.*—The combination with the head block A, metallic casing G, fenders or stays C C, clamps F F', bars D D', bolt E and handle B, substantially as described and for the purpose specified.

**67,076.**—HENRY P. SMITH, Denton, Mich.—*Potato Digger*.—July 23, 1867.—The potatoes are thrown out by the plows upon a frame attached to the tongue and hinged to the wheel frame. They are then raised by the rotary rake and thrown into the rotary screen, from whence they pass laterally by a spout.

*Claim.*—First, the fork J and screen K, constructed and arranged as herein described, in combination with the shaft G, as and for the purpose set forth.

Second, the combination of the cog wheel O and segmentally-toothed cog wheel P with each other and with the shaft G and axle A, substantially as herein shown and described, for the purpose of communicating an intermitting motion to the fork shaft G, as set forth.

Third, the combination of a cultivator or shovel plow X with the axle A and tongue Y, substantially as herein shown and described and for the purpose set forth.

**67,077.**—LEWIS A. SMITH, Cincinnati, Ohio.—*Chair Seat*.—July 23, 1867.—Explained by the claim.

*Claim.*—A chair seat formed of metallic strips B, passing continuously around the supporting bars and woven into two webs, as represented.

**67,078.**—WM. E. SMITH, Oquawka, Ill.—*Cultivator*.—July 23, 1867.—The plow beams are connected to the axle by joints that admit free lateral and vertical oscillation.

*Claim.*—The couplings G, composed of two parts d d, connected by a vertical bolt h, and having packing i interposed between them and the pin f, and connected to the axle and plow beams, substantially as and for the purpose set forth.

**67,079.**—WM. L. STANDISH, Pittsburg, Pa.—*Machine for Cutting Bungs*.—July 23, 1867.—The strip is fed intermittently to the cross-cut saw, and conveyed in a slide opposite the cutter, which withdraws it from the slide after shaping. The reciprocating pin discharges it from the cutter.

*Claim.*—First, the hollow taper steel cutter c, the guide pin d, the guide box E, and the die e, constructed, combined, and operating substantially as and for the purpose herein described.

Second, the combination of the saw G and the sliding frame H and D, constructed and operating substantially as and for the purpose herein specified.

Third, the ratchet wheel k and pawl k', in combination with the feed rolls k<sup>2</sup> k<sup>3</sup>, and the slide frame H, arranged and operating substantially as and for the purpose specified.

Fourth, the combination of the hollow cutter c, the guide pin d, the guide bar E, the die e, the saw G, the ratchet k, the feed rolls k<sup>2</sup> k<sup>3</sup>, and the slides D and H, or the equivalents of them, or either of them, when combined and organized substantially as described,

for cutting the blocks and pointing or tapering the ends of bungs, plugs, or taps in the manner specified.

**67,080.**—NATHAN STEPHENS, Brooklyn, N. Y.—*Tap for Cement Lined Pipes*.—July 23, 1865.—The branch pipe is radially attached by two flanges to the interior metallic pipe, which is enclosed by an inner and outer coat of cement. The branch pipe has a removable flange at each end.

*Claim.*—The lead or other like soft metal branch C, with its stopper or stoppers fitted to project through the sheet-iron pipe A, and arranged in relation thereto, and its cement lining and covering B B', for use in concert or combination therewith, substantially as specified.

**67,081.**—FRANCIS A. STERRY, Canton, Miss.—*Spindle Step*.—July 23, 1867.—Either end of the plug may be screwed into the base of the cup to furnish a step for the spindle.

*Claim.*—The cup C, constructed as described, in combination with the screw-threaded reversible spindle step B, as herein set forth for the purpose specified.

**67,082.**—JOSEPH STRIGEL, Louisville, Ky.—*Disinfecting and Antiseptic Compound*.—July 23, 1867.—Composed of horn shavings 1 lb., liquor ammonia succini  $\frac{1}{2}$  oz., juniper berries 56 grains. The compound, well mixed, is burnt on charcoal in a closed room to disinfect its contents.

*Claim.*—The discovery of the use and effect of the horn shavings and drugs mentioned in the preparation of the said disinfecting and antiseptic compound, when used in the proportions and manner mentioned in the above specification.

**67,083.**—ISAAC P. TICE, New York, N. Y.—*Toy Ball Player*.—July 23, 1867.—Cams on the hand crank engage projections on the vibrating rods, connected by rods with the ball and shoulders of the figures. Base ball and other games are thus represented.

*Claim.*—First, the combination with one or more figures, substantially such as herein described, of the ball E mounted on the rod n, substantially as and for the purpose herein set forth.

Second, the three figures B C D, constructed with vibrating or impelling arms a, and arranged in relation with each other, and the ball E mounted upon the vibrating rod n, substantially as and for the purpose herein set forth.

**67,084.**—JOHN TURNER, Marshalltown, Iowa.—*Stove Pipe Shelf*.—July 23, 1867.—The revolving shelves are supported on shoulders attached to the pipe.

*Claim.*—The revolving shelves D, when made and operating substantially as and for the purpose herein shown and described, in combination with the rings or flanges C C on the stove pipe A, all made and operating substantially as herein shown and described.

**67,085.**—C. VOGT and X. KRAFF, Allentown, Pa.—*Churn*.—July 23, 1867.—The barrel has a lid closed by a cam-shaped clamp and is rotated by clock-work, the motion being regulated by a brake.

*Claim.*—The arrangement and combination of the churn barrel C, adjustable hinge g, cam-shaped clamp j, adjustable brake D, and driving shaft B, all constructed and operating substantially as and for the purpose set forth.

**67,086.**—HERMANN VOIGT, Buffalo, N. Y.—*Curtain Fixture*.—July 23, 1867.—The tension pulley of the roller cord rotates on the semi-cylindrical pin which is inserted in its yoke with the convex side down and raised in slots by which it is confined to place. The yoke has a cord attached which is coiled on a pin within a case beneath.

*Claim.*—Regulating the tension of the roller cord by the winding of a cord attached to the lower pulley or bearing thereof, around a spindle, substantially as set forth.

Also, the combination of the knob I, spindle h, and friction bearing l, with the cord j, and pulley E, arranged and operating substantially in the manner and for the purpose set forth.

Also, the axial pin O of pulley E, constructed as described, in combination with the frame F, provided



with slotted openings  $r r'$ , and stop  $s$ , arranged and operating with the roller cord and pulley D C, substantially as and for the purpose specified.

**67,087.**—ALOIS PÖHR VON PÖRNHOFF, Brooklyn, N. Y.—*Apparatus for the Manufacture of Bicarbonate of Soda.*—July 23, 1867.—The hot gasses from the chimney are driven by a blower through a washer, where they become associated with steam, and are thence conveyed to a chamber charged with hydrate of soda on shelves, for the purpose of converting it into bicarbonate of soda.

*Claim.*—The arrangement and combination of pipes A C E F, blower B, and reservoir D, for the purpose and substantially as set forth above.

**67,088.**—A. W. WARD, Fishkill, N. Y.—*Machine for Washing and Drying Dishes.*—July 23, 1867.—The pairs of circular rotating brushes and sponges are contained in a water trough.

*Claim.*—First, the combination of the two brushes D and I, revolving in opposite directions with the shafts C and H, to which they are removably attached, with the box A, and gearing, by which they are operated, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the sponges P and V, and disks O and U, revolving in different directions with each other, with the box A, and with the gearing by which they are operated, substantially as herein shown and described and for the purpose set forth.

**67,089.**—R. M. WEBB and J. HERMANN, New York, N. Y.—*Scaling Pad-lock.*—July 23, 1867.—Within the key-hole and in line therewith is a spindle extending through the lock casing and out at the opposite side into a easing containing a seal, which is defaced by the sharp end of the spindle as the latter is pushed when the lock is tampered with.

*Claim.*—First, the spring spindle H, with sharp cutting edge  $a$ , operating in combination with the key N, against the seal in cap P, substantially as described for the purpose specified.

Second, the sleeve L, encircling the spindle H, with arm M, and notch  $c$ , operating in combination with the spring spindle H, and key N, having projection  $g$ , substantially as described for the purpose specified.

**67,090.**—WM. WEDDINGTON, Winterset, Iowa.—*Churn.*—July 23, 1867.—As the dasher is revolved, air passes down the hollow staff and through the elbow tubes into the cream.

*Claim.*—The combination of the hollow staff or tube C, having one or more elbow tubes E, attached to the lower end with the body A of the churn, substantially as herein shown and described and for the purpose set forth.

Second, the connection of the horizontal crank, wheel or pulley G, band  $j$ , pulley E, with the tube C, substantially as herein shown and described and for the purpose set forth.

**67,091.**—HIRAM WHITNEY, Watertown, Mass.—*Paper Neck Tie.*—July 23, 1867.—The shield has two slits for the passage of the ends of the tie and a tag to turn over in the rear and be looped over the button.

*Claim.*—The paper necktie constructed as described, consisting of the part E, provided with the parallel transverse slits I, to receive the folded part or ends of the tie F, the buttonhole piece H, upon the lower side adapted to be turned back against the part E, as herein set forth for the purpose specified.

**67,092.**—JOHN W. WILCOX, New York, N. Y.—*Document Envelope.*—July 23, 1867.—Explained by the claim and illustration.

*Claim.*—Constructing a box or document envelope, with double ends throughout and treble ends in part, by folding and uniting flaps cut out of one sheet of paper or other material, substantially as herein described.

**67,093.**—JACOB WILSON, Somerford, Ohio.—*Cultivator.*—July 23, 1867.—The plow beams are secured by bolts to the pendants and work freely thereon, straps connecting with the beams pass over pulleys, and are attached to treadles within reach of the driver's feet. Guides prevent the too free lateral motion of the plows. The draft is thrown back by attaching

the doubletree near the rear end of the tongue, rods securing the singletrees thereto.

*Claim.*—First, the combination and arrangement of the doubletree D, rods  $c$ , levers E, and whiffletrees H, with the frame A, mounted on wheels, substantially in the manner and for the purpose set forth.

Second, the two plows I J, connected together by the cross arms  $h$ , and connected at their front ends by bolts to the pendants G G, with the pendant guides O, passing through loops  $q$  at the outer sides of the beams I, substantially as and for the purpose specified.

Third, the attaching of the plow standards M M to the cross arms  $h$  of the plow beams I J, by means of the swivel bolts  $i$ , in connection with the straps P passing over the fixed pulleys Q, and the stirrups  $p$ , all arranged to operate in the manner as and for the purpose specified.

Fourth, the raising and lowering of the plow beams I J through the medium of the levers  $o$ , semi-circular bars  $n$ , and straps  $m$ , arranged substantially as shown and described.

**67,094.**—E. R. WOLFE, Plymouth, Pa.—*Gate.*—July 23, 1867.—As the gate opens, the jointed rod pulls upon the lever and extends the spring, whose force closes the gate again when it is free to move.

*Claim.*—The combination and arrangement of the bent lever D, spiral spring E, and jointed connecting rod F, or its equivalent, with each other, and with the gate C and post B, substantially as herein shown and described and for the purpose set forth.

**67,095.**—R. S. ARNALL, Wright City, Mo.—*Churn.*—July 23, 1867.—The box is suspended by rods in a frame, and is oscillated by crank and pitman.

*Claim.*—The arrangement of the churn box B with the vibrating frame M, connected and used with the frame A, as and for the purpose set forth.

**67,096.**—E. H. ASHCROFT, Lynn, Mass.—*Steam Gauge Dial.*—July 23, 1867.—The dial has two graduated circles, one representing the pressure, the other the temperature.

*Claim.*—In combination with a steam gauge A, the graduated dial B, as shown and described, whereby the temperature corresponding to any pressure is indicated at the same time by the pointer.

**67,097.**—R. H. BIRT, Kokomo, Ind.—*Tinners' Folding Machine.*—July 23, 1867.—The sheet metal, cut to the required shape and size, is laid upon the bed piece, held by a lever, and bent up against the "former" by a folder. The sides of the pan are operated upon consecutively.

*Claim.*—First, the combination of the bed-plate and stationary standard B with the adjustable standard C, and lever D, and former E, and adjustable former E<sup>2</sup>, substantially as and for the purpose set forth.

Second, the combination of the parts A B C D E and E<sup>2</sup>, constructed and arranged substantially as described, with the folding door or lever G, substantially as and for the purpose set forth.

Third, the door or lever G, in combination with the adjustable springs H, constructed and arranged substantially as and for the purpose set forth.

**67,098.**—E. B. BISHOP, New Orleans, La.—*Cotton Tie.*—July 23, 1867.—The lips are cut half way through, at their point of junction with the plate. Each end of the band is folded around one side of the frame and the ends turned in. The expansion of the bale tends to return the lips to their original position.

*Claim.*—The projecting lips C C, cut as described at their junction with the plate, the whole being constructed as described for the purpose set forth.

**67,099.**—WILLIAM K. BLACK, Philadelphia, Pa.—*Sewer Pipe Machine.*—July 23, 1867.—The clay is fed into the hopper, and after cutting and mixing by the radial knives is forced by the spiral flukes through the annular throat. The throat pieces and their supporting disk are removable for substitution of those differing from them in size. The hopper is vertically bisected and one-half hinged to allow access to the inside.

*Claim.*—First, the revolving screw shaft B C D, suspended from its bearings, when leaving a space between it and the bottom of the cylinder, as and for the purpose specified.



Second, the construction of the shaft B of wrought-iron and the spiral flange D and shaft C of cast-iron, forming the cutting, tempering, and forcing parts B C D, substantially as described, for the purpose specified.

Third, the suspended core pin I, in combination with the funnel H, substantially as described, for the purpose specified.

Fourth, the removable ring G, supporting the removable die H I, substantially as described.

Fifth, in combination with the revolving serew, the door F of the sectional cylinder extending from top to bottom thereof, for the purpose described and in the manner specified.

**67,100.**—A. W. BRINKERHOFF, Upper Sandusky, Ohio.—*Clothes Pin*.—July 23, 1867.—Explained by the claims and illustration.

*Claim.*—First, constructing a clothes pin out of one piece of sheet spring metal, possessing in full the spring, clasp, and levers for expanding the lips, as and for the purposes set forth.

Second, such manner or form of construction of clothes pins, when made out of one piece of sheet metal, as will secure both the spring and the fulcrum between ascending levers, and so that by pressing the levers together at their upper ends their inner sides shall be brought to bear against the fulcrum and thereby spread the lips in applying or removing it from the line.

**67,101.**—CHARLES L. BROWNE, Brooklyn, N. Y.—*Jumping Hoop*.—July 23, 1867; antedated July 5, 1867.—The ends of the bow are attached to a hand bar, and it is swung like a skipping rope.

*Claim.*—The invention of a jumping hoop, by the combination of a wooden cross-piece with a hoop secured thereto by metal connections or by mortise, as in annexed drawings.

**67,102.**—L. S. CALKINS, El Paso, Ill.—*Clothes Fryer*.—July 23, 1867.—The posts of the frames are hinged together at their upper ends and are connected by pivoted slats adjusted by wedge blocks.

*Claim.*—The use of the two frames herein described, constructed and hinged together at their upper ends and provided with the blocks *ee*, substantially as and for the purpose herein set forth.

**67,103.**—SAMUEL J. CLARK, Detroit, Mich.—*Lifting Jack*.—July 23, 1867.—The fulcrum post is hinged to the lever, and the latter is held in position when a weight is upon it by a pawl which rests on top of the post.

*Claim.*—The combination and arrangement of the lever A, the standard B, the hinge C C, ratchet D, pawl E, and hook F, for the purposes above described.

**67,104.**—CHARLES E. CLARKE, GEORGE HADLEY, and JOHN W. CLIFFORD, Buffalo, N. Y.—*Preserving Wood*.—July 23, 1867.—The timber chamber is charged with superheated vapor, which is subsequently condensed, and the pores of the wood filled with an oleaginous preservative material admitted from a reservoir.

*Claim.*—The within described process of treating wood for the purpose of preserving, protecting, solidifying, or coloring the same.

**67,105.**—JOHN E. CRYER, Green Point, N. Y.—*Churn*.—July 23, 1867.—Projections in the nut traverse grooves in the dasher shaft, and oscillate the dasher in a horizontal plane. The nut is vertically reciprocated by the lever and link.

*Claim.*—First, the spiral threaded shaft B *b*, in combination with the traversing nut E *e*, and with oscillating dashers arranged to operate substantially in the manner and for the purpose herein specified.

Second, the fork link H H<sup>1</sup> H<sup>2</sup>, connected to the nut E *e*, and arranged to operate relatively thereto and to the spiral threaded shaft B *b*, and to the hand lever G, or its equivalent, substantially as and for the purpose herein specified.

Third, mounting the within described partially revolving shaft B B' between pivots *a c* in the manner represented, one of the said pivots being fixed on a cross-bar C C<sup>1</sup> C<sup>2</sup>, secured in bearings A<sup>1</sup> A<sup>2</sup> by means of the removable wedge D, so as to allow the whole

to be connected and disconnected in the manner and for the purposes herein set forth.

**67,106.**—J. CUMMINGS and H. HARRINGTON, Woodstock, Canada.—*Threshing Machine*.—July 23, 1867.—The suspended reciprocating toothed bars are alternately vibrated by a crank shaft actuated by the gearing. The rock shaft agitates the shoe, and the straw carrier at the same time and in conjunction with the reciprocating bars shakes and propels the straw. The pendent screen board arrests the progress of stray grains. A perforated board is substituted for slats in that part of the straw carrier beneath the crank shaft.

*Claim.*—First, the combination and arrangement of the alternating reciprocating bars H H, having also a vibrating up and down motion at the front end with the straw carrier C, having a longitudinal reciprocating motion and a vibrating up and down motion at the rear end, substantially as and for the purposes set forth.

Second, the thin elastic metal tips *b* on the near end of the bars H, running in the cross-guido piece I, as described and for the purpose set forth.

Third, the perforated board H under the crank shaft J, and forming a part of the slatted carrier C, as and for the purpose specified.

Fourth, the pendent screen or dividing board B, constructed, arranged, and operating as described, employed in combination with the bars H and carrier C, as set forth.

Fifth, the construction and arrangement of the grain carrier L, forming part of the shoe, and provided with the inclined slatted screen M at the end, as shown, in combination with the carrier C and reciprocating bars H H, the whole arranged and operating substantially as described.

Sixth, connecting both the shoe and straw carrier by the rod *o*, and operating them by the same rock-shaft A, in the manner described.

**67,107.**—F. J. DIBBLE, Chicago, Ill., assignor to himself and MARSHALL E. HUNTER, same place.—*Folding Seat and Arm*.—July 23, 1867.—The seat and arms are pivoted so as to fold up against the back, and have elastic rubber stops at their points of contact with their supports.

*Claim.*—First, in combination with a folding seat C a folding arm L, operating substantially as herein specified.

Second, the combination of the seat C, arm D, axle F, slot I, and pin H, with the jointed arm L, arranged and operating as and for the purposes specified.

Third, the combination of the folding arm L with the seat C, the arm D, axle F, slot I, and pin H, and rubber J, substantially as and for the purposes set forth.

Fourth, in combination with the last above, the arrangement of the rubbers K K, or their equivalent, in the manner and for the purposes described.

**67,108.**—CLARK FISHER, Trenton, N. J., assignor by mesne assignments to himself.—*Burning Hydrocarbon Liquids*.—July 23, 1867.—The apparatus is removed from the effects of the heat, correcting its tendency to accumulate tar. A jet of steam delivers the hydrocarbon in spray by which it is atomized, and mingled with atmospheric air introduced partly by the action of the steam and partly by the grate bar or plates. The nozzle is adjustable.

*Claim.*—First, the apparatus substantially as described.

Second, the location of the apparatus outside of the chamber where the combustion is effected, so that it may not be affected by the heat of the same.

Third, the method of regulating the supply of steam by the serewing outward or inward of B.

Fourth, the delivery of liquid hydrocarbon for combustion in the form of spray, by means of a jet of steam, substantially as herein described.

**67,109.**—JOHN GOODIN, ERASTUS F. BLAIR, and JOHN LYDA, Georgetown, Ohio.—*Machine for Manufacturing Sheet Metal Pans*.—July 23, 1867.—The sheet metal blank is laid on the die, and the plunger coming down on the same forces the corners into the curved grooves and turns the fold of the metal around to the side of the pan, leaving it ready for wiring,



*Claim.*—The expansive die H H' H'', provided with curved corner grooves h', and constructed and operated substantially in the manner and for the purpose specified.

**67,110.**—G. GUNDERSON, Chicago, Ill.—*Skate Fastening.*—July 23, 1867; antedated July 11, 1867.—The plate on the heel of the boot is engaged by stationary and movable projections from the heel plate of the skate.

*Claim.*—The plate D, having the projections a a b, in combination with the plate c, spring g, lock e, boot C, and skate A B, when constructed, substantially as and for the purpose set forth.

**67,111.**—W. E. HASKINS, New York, N. Y.—*Envelope.*—The trapezoidal projections at the upper corners are folded in so as to secure the loose corners of the envelope.

*Claim.*—The trapezoidal projections D D of the box envelope between the flap A, ends E E, and the upper corners of the joint B, folded in the medium line b d, and lines a d and d e, whereby the corners of the envelope are completely closed, substantially as described, for the purpose specified.

**67,112.**—WILLIAM P. HEFFRON, Chicago, Ill., assignor to himself and GEORGE H. SAYRE, same place.—*Boiler Tube Cleaner.*—July 23, 1867.—The tube is driven longitudinally by the feed wheel passing between the revolving tools, which are driven by a bevel ring-gear to which they are attached.

*Claim.*—First, the combination of the traveling or feed wheel G and a series (one or more) of revolving cutters M, arranged and operating substantially as and for the purposes herein specified.

Second, the combination of the cutter holder, with its cutters and traveling wheel G, with the gearing shown, for the purpose of operating the same as and for the purpose set forth.

Third, in combination with the said traveling wheel and revolving cutters, the case A B, provided with a central opening for the tube, arranged and operated substantially in the manner and for the purposes described and set forth.

**67,113.**—D. S. HINES, Brooklyn, N. Y.—*Hydraulic Crane.*—July 23, 1867.—The metallic post is placed within the cylinder, forming a guide to the ram when it is under the strain of a load placed on the jib, keeping the lower end of the ram in line with bearings in the neck of the cylinder. The mast is strengthened by a guide above the jib. The lower end of the mast is arranged for unhooking and removal of mast and jib for facility in packing.

*Claim.*—First, the combination of the cylinder and ram with an internal central support, constructed substantially as and for the purpose described.

Second, the arrangement with the cylinder and ram of a jib, constructed with a mast, said mast being provided with a suitable guide above the jib, substantially as and for the purpose described.

Third, the arrangement in the lower part of the mast of a device for unhooking or releasing it from the ram, substantially as described.

Fourth, the arrangement with the jib of an intermediate brace, substantially as and for the purpose described.

Fifth, the combination with the carriage running upon the jib of a vertical friction roller, substantially as and for the purpose described.

Sixth, the introduction of air under pressure at any convenient point in the cylinder, for the purpose of blowing the water out that may remain and in its connecting pipes after use, substantially as described.

**67,114.**—HIAL HODGE and JOSEPH P. NOYES, Binghamton, N. Y., assignors by mesne assignments to SAMUEL S. WHITE, same place.—*Automatic Dental Mallet.*—July 23, 1867.—Pressure on the thumb pin forces back the mallet and trips the same to cause a blow, which is communicated to the plugger.

*Claim.*—First, the combination, substantially as shown and described in the drawing and specifications before referred to, by which the blow is produced by simply pressing down the finger-piece h.

Second, the graduation of the force of the blow by the screw, combined with the finger-piece, substantially as shown and described.

Third, the combination, substantially as shown and described, by which the point f is held firmly in its place, and any sliding in the instrument avoided, thus enabling it to be used as an ordinary hand plugger whenever desired.

**67,115.**—W. W. HUBBARD, Edinburg, Ind.—*Corn Planter.*—July 23, 1867.—The log is beveled in front and has a draft hook attached. It is hollowed out to make room for a seed hopper, adjustable slide, and pivoted elbow lever. The pivoted handle, in connection with the lever and slide, regulates the dropping of the corn in the hollow made by the projection below the log. The covering hoe follows in the rear.

*Claim.*—First, the log or drag A, provided with a seed or corn hopper in its rear end, or used with it, as and for the purpose set forth.

Second, the handles D, lever E, and seed slide C, arranged with the log with a hole through its center, and hopper B, as and for the purpose set forth.

Third, the hoe or coverer I, connected to the drag and handles, and operating substantially as and for the purpose set forth.

Fourth, the mole or flange L, on the under side of the log or drag, used substantially as and for the purpose set forth.

**67,116.**—GEORGE HUBERT, Lancaster, Pa.—*Compound Lock for Doors.*—July 23, 1867.—When the door is locked in the ordinary manner, the smaller key is introduced and the bolt is again locked.

*Claim.*—The supplementary lock, consisting of the bolt I I, with its projecting arm K, and the spring tumbler I, with its curved flange and opening, the same being constructed and arranged as described, so as to be operated by an independent key for securing the main bolt of the lock, in the manner substantially as set forth.

**67,117.**—WILLIAM D. HUNT, Scott, N. Y.—*Fence.*—July 23, 1867.—Explained by the claim and illustration.

*Claim.*—Providing the wires of a wire fence with a series of spur wheels, substantially as and for the purpose set forth.

**67,118.**—A. B. HURD, Watkins, N. Y.—*Churn Dasher.*—July 23, 1867.—The tubular dasher shaft slips loosely upon the rod projecting from the bottom of the churn; the air below the valve in the shaft is driven into the cream at each down stroke. The dasher arms have spiral, flutter wheels.

*Claim.*—First, the combination of the plug C, at the bottom of the churn, with the tubular rod A sliding over it, for displacing the air, as herein set forth.

Second, the combination of the spiral wheels d with the dasher wings b, arranged and operating in the manner and for the purpose set forth.

Third, the special construction and arrangement of the churn dasher, with all its parts, as herein specified.

**67,119.**—JOSEPH HYDE, Troy, N. Y.—*Folding Chair.*—July 23, 1867; antedated July 18, 1867.—The arms are pivoted to the back and the lower portions, and they to the upper ends of the legs. As the back is reclined the lower part is lifted, and it assumes a couch form.

*Claim.*—The employment of the center arm pieces C, in combination with the back pieces B B, and with the lower pieces D D, and each being so arranged and attached as to allow or permit the said chair or couch to be folded or unfolded, in the manner and for the purposes substantially as herein described and set forth.

**67,120.**—GUSTAV JEDAMSKI, New York, N. Y., assignor to WILLIAM STACHLEN, same place.—*Pen Raek.*—July 23, 1867.—Pairs of concavo-convex springs elasp the pens.

*Claim.*—The spring B, formed with a recess a and double springs b c, as and for the purpose described.

**67,121.**—THOMAS H. JENKINS, Nyack, N. Y.—*Making Steel.*—July 24, 1867.—Crude cast iron is thrown, in small pieces, at a cherry-red heat, into a bath consisting of water, 28 galls; oil of vitridl, 8



lbs.; sal ammoniac, 44 oz.; glauher salts, 20 oz.; common salt, 30 oz.; 5 to 12 parts of this cast iron are melted in pots with 100 parts wrought iron.

*Claim.*—Melting wrought iron in crucibles or pots in admixture with a percentage of crude cast iron, after such crude cast iron has been treated, while in a highly heated state, in a bath, substantially as described.

**67,122.**—HORACE M. KEITH, West Bloomfield, Mich., assignor to himself and T. A. FLOWER, Oakland county, Mich.—*Combined Fertilizer and Seed Sower.*—July 23, 1867.—The seed slides are reciprocated by levers actuated by cams on the axle, and the fertilizer cylinders are driven by chain gearing to the axle. Their discharge holes may be closed by the surrounding strips.

*Claim.*—First, the cylinders H H, revolving in the box G, and carrying fertilizing material for distribution, as herein specified.

Second, the bands *e e*, with their strips *d d*, in combination with perforated cylinders H H, as and for the purpose set forth.

Third, the wings or flanges J within the perforated cylinders, as and for the purpose set forth.

Fourth, the arrangement of the cylinders H H, claims L L, divided axle B, levers D D, wheels *a a*, and the box E, with its slides, as and for the purpose set forth.

**67,123.**—EDWARD KRETCHMER, Pleasant Grove, Iowa.—*Beehive.*—July 23, 1867.—The comb frames are in two vertical sections, removable separately from the hives, and between the cross-bars; other bars are interposed to limit the queen to the lower portion, but allow passage to the workers. It operates to restrict the brood to the lower combs.

*Claim.*—The comb frames R, provided with the bar *i*<sup>1</sup> and bars *o o*<sup>10</sup>, constructed and arranged substantially as and for the purpose described.

**67,124.**—CHARLES F. KUHNLE, Washington, D. C.—*Shelf Bracket.*—July 23, 1867.—Improvement on his patent August 15, 1865. One face rests against the wall, another supports the joist or shelf, and the projections enter the wall.

*Claim.*—The bracket A, consisting of the pieces *a a'*, at right angles to each other, braced by supports *b*, and provided with two or more projections *c* and flanges *d*, substantially as described.

**67,125.**—JAMES LAMB, Hubbardstown, Mass.—*Washing Machine.*—July 23, 1867.—Four operative pins depend from the central frame attached to the shaft of the cross handle. The shaft passes through the lid and has free rotation therein.

*Claim.*—The said washing machine, as composed of the tub A, the cover B, the shaft C, the handle D, the cross E, and the pins F, combined and arranged in manner so as to operate substantially as described.

**67,126.**—GEORGE LONG, Marlboro' Township, Ohio.—*Wagon Brake.*—July 23, 1867.—The fore axle is so connected to the compound brake levers that backward pressure in descending a hill will put the brakes into action. This movement of the axle is prevented, when backing the wagon, by the pendent part of an oscillating lever upon the box, which is brought in contact with the axle.

*Claim.*—First, the peculiar combination and arrangement of the front bed piece D, connecting link K K, and compound levers E I E I, substantially in the manner and for the purpose specified.

Second, the peculiar combination and arrangement of the lever O with the lever P, forming a compound anti-brake lever, substantially in the manner and for the purpose specified.

**67,127.**—WM. L. LOWREY, Saratoga Springs, N. Y.—*Manufacture of Illuminating Gas.*—July 23, 1867.—The carbureted hydrogen from the retort is obtained from the destructive distillation of any carbonaceous matter, and is passed successively through bodies of charcoal, the first of which is exposed to the heat of the fire.

*Claim.*—First, the manufacture of gas by roasting the material in a retort, and passing the gaseous products through a chamber partially filled with charcoal, at a high heat, and then through a condens-

ing chamber filled with charcoal, substantially as described.

Second, the retort A, in combination with the decomposing chamber B and the condensing chamber C, when arranged and operated in connection with a cooking stove, range, or similar heating apparatus, substantially as set forth.

**67,128.**—WARREN MANSFIELD, South Braintree, Mass.—*Spring Wagon.*—July 23, 1867.—The bed rests by springs on the hind axle, and the front is supported by springs on the bolster of the fore axle; volute spring braces attach the bed to the bolster.

*Claim.*—First, the arrangement upon rockers B of springs C, connected as described with the wagon body *i*.

Second, the arrangement of volute spring braces *d*, connected as described with wagon body H and rocker B, when the rocker carries springs C, attached to the wagon body, substantially as described.

**67,129.**—ELDRIDGE J. MERRICK, Rochester, N. Y.—*Dental Plate.*—July 23, 1867.—An elastic base is attached to the hard portions, and may be removed and another attached as the mouth changes.

*Claim.*—First, the use of an elastic base over the entire surface of the upper jaw and the back portion and sides of the palatine arch.

Second, the manner of making the elastic base smooth on the lingual side by means of its being vulcanized in contact with polished metal.

**67,130.**—G. S. MERRILL, Chicago, Ill.—*Machine for Cleaning and Assorting Cranberries.*—July 23, 1867.—The cranberries run down an inclined chute, and are assorted by their comparative momentum, the perfect and imperfect berries and the trash being collected in separate trays.

*Claim.*—First, the arrangement and combination of the adjustable chute-board B M, partitions D E, and reverse board C, substantially as and for the purpose set forth.

Second, the combination of the board K and movable stop N, when constructed as and for the purpose specified.

**67,131.**—GILPIN MOORE, Moline, Ill., assignor to DECREE and COMPANY, same place.—*Dies for Making Plow Braces.*—July 23, 1867.—The dies have suitable recesses for swaging the brace bars to form. These brace bars are inserted between the mold board and the land side, at the rear end.

*Claim.*—The dies A and B, constructed substantially as shown and described, for making plow braces, as set forth.

**67,132.**—JOSEPH MYERS, Camden, Pa.—*Sleigh Brake.*—July 23, 1867.—The motion of the handle, by means of levers with pivoted connections, brings the claws upon the track to act as a brake.

*Claim.*—The arrangement of the lever B, connecting rod C, with the levers E G and I, shaft I, and connecting bars H and F upon the sleigh or slide, as and for the purpose herein specified.

**67,133.**—CHARLES W. PACKER, Philadelphia, Pa.—*Ice Cream Freezer.*—July 23, 1867.—The can and the paddles revolve in different directions, their gears being operated by the bevel wheel on the driving shaft.

*Claim.*—First, the cross-bar B, hinged to and retained on the vessel A, and carrying a wheel G, having a recess adapted to receive the end of the dasher spindle, substantially as described.

Second, the combination of the cross bar B, its plate D, bevel wheels G and F, spindle E, and bevel wheel K on the cover of the vessel I.

Third, the combination of the said cross bar B, its plate *b b*, and pins *e*, with the studs *f f* on the vessel A.

Fourth, the strip K arranged to vibrate on a dasher, substantially as set forth.

**67,134.**—JOHN H. PARMELEE, Chicopee, Mass., assignor to himself and WILLIAM BALL.—*Collar.*—July 23, 1867.—The tongues on the band of the collar prevent the tie from slipping off.

*Claim.*—As a new article of manufacture, a paper or cloth collar having one or more semicircular, semi-elliptical, or rectangular slits or cuts in the band



thereof, forming a tongue, made substantially as herein described and for the purposes specified.

**67,135.**—ELI PETTYS, Chestertown, N. Y.—*Gate*.—July 23, 1867.—The gate is opened or shut by suspended rods attached to the transverse lever actuating the hinged bar, which connects by a segment with the pinions attached to the gate.

*Claim.*—First, the use of the bar H with its arm J, with the segment G, in combination with the rear bar of the gate and its pinion, as and for the purpose set forth.

Second, the cross-bar I, provided with its cords or rods *s s*, in combination with the bar H, as constructed and used, substantially as set forth.

Third, the shaft *i*, provided with the oval collar and used in connection with the loops *a a* as and for the purpose set forth.

Fourth, the arm J, lever K, spring I, and latch M, arranged and used substantially as and for the purpose set forth.

**67,136.**—NELSON PRAMER, Troy, N. Y., assignor to HICKS, WOLF, & Co., same place.—*Grate*.—July 23, 1867; antedated July 14, 1867.—The grate has a central hook which enters a loop in its supporting bar to allow the tilting of the grate.

*Claim.*—The combination of a cylindrical or other shaped grate A with a stationary horizontal bar or support D, in the manner and for the purposes substantially as hereinbefore fully described and set forth.

Second, the employment of the hook C in combination with the recess E, by means of which the grate is operated in the manner and for the purposes substantially as hereinbefore described and set forth.

**67,137.**—THOMAS M. and THOMAS J. RASER, Philadelphia, Pa.—*Boat-Detaching Tackle*.—July 23, 1867.—The detent catch of the two jaws is upon a spring which is depressed by the boat-supporting link so that as the boat touches the water the detent rises and frees the jaws. The jaws may be transfixed by a pin to prevent detachment.

*Claim.*—First, in combination with the two jaws of the hook pivoted together, as described, the spring *b*, latch spring *c* with its catch *c'*, tongue *d* with its catch *e*, and the groove *d'*, all constructed and operating substantially as described.

Second, in combination with a hook constructed and operating as above described, the pin *f*, as and for the purpose described.

Third, in combination with a hook constructed and operating as described, the check pin *i* and groove *j*, as and for the purpose described.

Fourth, in combination with the tongue *d* and groove *d'*, the guard plates *g* on each side of the tongue, arranged and operating as and for the purpose described.

**67,138.**—HENRY ROTHFELTER, New York, N. Y.—*Winding and Setting Watches*.—July 23, 1867.—The key is in the stem, and may be detached for ordinary use by turning down the ring, a shoulder on which withdraws the pin which holds the key in place. A lever is pivoted inside, and is adjustable by a lever-catch and spring. It carries two wheels, which may respectively be brought into connection with the winding gear or the setting gear.

*Claim.*—First, the lever B, lever catch *r*, stud *s*, and spring *m*, in combination with the wheels *d*, *e*, *a*, and *q* and with the button *h*, all constructed and operating substantially as and for the purpose set forth.

Second, the cam-shaped shoulder *k* on the ring *j*, in combination with the pin *i* and barrel *g*, constructed and operating substantially as and for the purpose described.

**67,139.**—WILLIAM F. SEAVEY, Portland, Me.—*Brace for Bits*.—July 23, 1867.—The sliding plate has V-projections narrowing the slot through which the shank passes. The projections engage notches in the shank when moved inward.

*Claim.*—The horizontal sliding slotted plate C, when moving in the slot in the part 2 of the bit brace and further secured by the screw *d*, and having the three slots 3 4 5, substantially as and for the purposes herein set forth and described.

**67,140.**—BALTHASAR SEEGMULLER, New York, N. Y.—*Combined Knob, Latch, and Lock*.—July 23,

1867.—The tumbler is pivoted to the latch, and may be connected to or disconnected from the spindle yoke, or locked while projected by a knob which traverses a slot in the plate.

*Claim.*—The hooked tumbler *f* pivoted on the bolt and provided with a knob passing through a slot in the lock case, in combination with the saddle operated by the handle, substantially as and for the purposes set forth.

**67,141.**—JACOB SLAUDER, Osborn, Ohio, assignor to himself and LEVI C. SMITH, same place.—*Broadcast Seeder*.—July 23, 1867.—The seed board is reversible to throw the seed to the front or rear of the plows. The plows can be removed and drill teeth substituted, hose being attached to convey the grain. The seed-box may be adjusted to sow oats. The seed frame is adjustably connected to the plow and axle frame.

*Claim.*—First, the reversible seed board N, attached to the seed-box as above shown, when constructed and used substantially as and for the purpose described.

Second, the adjustable bottom *c c'* of the seed-box, which may be elevated or depressed at pleasure, substantially as and for the purpose specified.

Third, the combination of the plow beams K K, the plow standards H H, the beam G, and the lever I, substantially as and for the purpose described.

Fourth, the arrangement of the alternate short standards H' on the plow beams K, and the long standards H affixed to the beam G, substantially as and for the purpose specified.

**67,142.**—ABRAHAM L. SMITH, Marengo, Mich.—*Coupling Reach for Bob Sleighs*.—July 23, 1867.—The extensible coupling bar consists of two pieces connected by a strap and adjusting bolt. This metallic bar is engaged by the ring bolt, and passes through ring bolts of the tongue of the rear sled.

*Claim.*—The arrangement and combination of the two metal reach bars C and D with each other and with a pair of bob sleds, when such bars are constructed and connected substantially in the manner and for the purposes herein set forth.

**67,143.**—CHARLES S. SNEAD, Louisville, Ky.—*Extension Gate*.—July 23, 1867.—The diagonally-latticed gate is folded back as a lazy tongs, and has a caster on the moving upright.

*Claim.*—The peculiar construction of the gate, as herein described, to allow the expansion or contraction, the application of the intermediate washer C, to prevent the rubbing of bars, the slots D, to allow the extension and limit the same, and the foot roller E, to prevent the sagging of the gate.

**67,144.**—H. T. STANARD, Wayne, Mich.—*Machine for Applying and Measuring Forces*.—July 23, 1867.—For testing the tenacity of metal, &c. One end of the bar to be tested is attached to a hook upon one of a system of levers connected to an index finger, the other end is connected to a reciprocating lever made to climb up its supports by changing the fulcrum pin. The lever is actuated by reciprocal pawls on a hand lever. A scale near the bar indicates the elongation of the same.

*Claim.*—First, the frame F F F, in triple form, as described.

Second, the combination of the double lever C C with the frame F F F, as specified, to obtain a triple bearing for the fulcrum pin, thereby securing greater strength.

Third, in combination, the arms N and R, index wheel *h*, pointers 3 and 4, scale *o o*, chain or cord 5 and 6, spring 7, all combined and operating as specified.

**67,145.**—COLIN CREE ST. CLAIR, Washington, D. C.—*Preserving Dead Bodies*.—July 23, 1867.—Explained by the claims.

*Claim.*—First, the preserving of dead bodies by encasing them in liquid cement compositions, which harden by drying, substantially as and for the purpose described.

Second, the composition described, composed of one part plaster of Paris with two parts of hydraulic cement, substantially as and for the purpose specified.

Third, the use of the glass plate D and the tube E, in connection with the encasing of bodies in the com-



position or cement, substantially as and for the purpose described.

**67,146.**—THEOPHILUS STOVER, Cambridgeport, Mass.—*Window Blind Fastening*.—July 23, 1867.—The vertically-moving spring has two latch projections, which engage respectively the sheet and open holding catches.

*Claim.*—First, the construction of two latches *a a'* upon the spring plate B, for the purpose of being received and held by notched catches, substantially as described.

Second, the pin E, constructed with a head *b'* and shoulder or gauge *b* upon it, for the purpose of being used in combination with a latch spring B, and suitable catching devices in the construction of a window fastening, as set forth.

Third, the back shoulder abutments upon the catches when the same are raised higher than the forward shoulders and prevent the latches passing too far back, as herein set forth.

Fourth, a reversible blind catch D, which is adapted for being driven into vertical or horizontal joints between the brick of a wall, substantially as explained.

Fifth, the combination of lifting rod *g*, and double catch or latch studs *a a'*, with a spring B, which is applied to the bottom edge of a window and blind sustained by a pin E, substantially as described.

**67,147.**—EDWARD STUART, Shufordsville, Miss.—*Cotton Press*.—July 23, 1867.—The rack bar has two plungers and works alternately in a press box at each end; the teeth are in three longitudinal rows, and in each of the outer rows the teeth stand opposite to the spaces in the other. An eccentric cam operates to complete the pressure.

*Claim.*—The combination of the peculiar construction of cogs and eccentric wheel, so as to prevent cogs from breaking with great pressure, as described in the specification.

**67,148.**—JOHN M. WILCOX, Albany, N. Y.—*Potato Digger*.—July 23, 1867.—A rotating rake acts upon the potatoes and earth as they are raised by the plow, and passes them to the reciprocating separator. A series of fixed knives cut the vines which tangle on the rake.

*Claim.*—The revolving raking apparatus *t* and standing knives *v*, in combination with the plow or scoop *f* and separator *w*, substantially as and for the purposes set forth.

Also, the reciprocating fingers *l*, actuated in the manner specified, in combination with the separator *w* and plow *f*, as set forth.

**67,149.**—REUBEN B. WILL, New Market, Va., assignor to WESLEY H. COLTON, Shenandoah county, Va.—*Washing Machine*.—July 23, 1867.—The bottom of the suds box is semi-cylindrical and has a segmental series of rollers. The radial arms have projecting knobs and are oscillated by a crank upon their shaft connected to a rotating crank of somewhat less length.

*Claim.*—First, the construction of a washing machine dasher, of a drum D and studded arms *e e*, arranged within a semicircular wash box, having a concave bed of rollers, substantially as described.

Second, the centrally arranged rib *d*, in combination with the removable covers B and the concave wash box having vibrating heating arms applied within it, substantially as described and for the purposes described.

**67,150.**—GRANVILLE WOOD, Detroit, Mich.—*Melodeon*.—July 23, 1867.—The capacity of the air chamber above the reeds is enlarged; the reeds are placed further from the swell; a wind shield over the reeds checks, diffuses, and equalizes the motion of the air as it approaches the different reeds. The object is to establish accord, which is vitiated by the usual unequal velocity of the air upon the different reeds.

*Claim.*—The employment of an air chamber C over the reeds F F, when the reeds are placed and arranged therein in such a manner that they do not receive the currents of air admitted by the swell direct, but changed in direction and equalized in force, substantially as and for the purposes herein specified.

**67,151.**—DAVID W. WRIGHT, New York, N. Y., assignor to THOMAS L. WRIGHT, same place.—*Rule for Calculating Time and Measures*.—July 23, 1867.—One side is a time scale graduated duodecimally for months and has a sliding bar which is graduated for days. The other side is graduated in inches and fractions. The mode of operation and its uses cannot be briefly described.

*Claim.*—The combination of the above-described slide *a*, having upon it initial day letters and otherwise marked and numbered, substantially as above specified, with stationary part of said scale, constructed, marked, and divided substantially as above described.

**67,152.**—HENRY ZURBRICK, Elizabethtown, Ohio.—*Cultivator and Seed Sower*.—July 23, 1867.—The seed frame beneath the hopper is divided horizontally and hinged so that the top can be thrown back to expose the seed cylinder. The seed frame is hinged to the main frame and is tilted by a lever to throw the seeding mechanism out of gear. The covers are attached by collars to the standards of the opening plows.

*Claim.*—First, the hopper H hinged to the bed piece I, the bed piece I hinged to the frame J, and the frame J adjustably bolted or hinged to frame A, as and for the purpose herein specified.

Second, the arrangement of the lever L and its connections with the frame J, for the purpose of elevating its rear, and throwing the seeding apparatus out of gear, substantially as specified.

Third, the arrangement of the shanks P with the covering device attached to the same and with the adjustable frame J, as and for the purpose specified.

**67,153.**—ROBERT ASHE, Somerville, Mass., assignor to himself and GEORGE W. ELDREDGE.—*Baby Jumper and Cradle*.—July 23, 1867.—The cradle or seat is supported on bowed springs like sleigh runners.

*Claim.*—The combination of the brace A, the seat or cradle B, and the rods C, with their springs *a*, when the latter are arranged and secured at such a distance apart as to prevent the seat or cradle from tipping to one side, substantially as set forth.

Also, in combination with the above, making the springs *a* adjustable, so that they can be advanced or withdrawn, in order to increase or diminish their power of resistance, substantially as described, for the purpose set forth.

Also, making the front portion 5 of the cradle removable, so that the remaining portion may be used as a chair or seat, substantially as set forth.

**67,154.**—H. H. BRYANT, Boston, Mass.—*Construction of Fire-proof Safes*.—July 23, 1867.—Between the inner and outer cases are removable water vessels, arranged to surround the inner safe with steam, when the structure is subjected to heat.

*Claim.*—First, the combination with the inner and outer walls or cases of a safe or other structure of a similar nature, of water or liquid vessels or tanks, located between the said walls or case, under an arrangement substantially as herein described.

Second, the combination with the cases *a* and *d* of the removable water or liquid tanks or vessels and flanges or supports by which the same are held in position in the space intervening between said cases, as and for the purposes described.

Third, in a safe or other similar structure, as herein specified, the construction and arrangement of one or more sides of the outer wall or case, so that the same may be readily removed without injury to the said structure, as and for the purpose shown and set forth.

**67,155.**—JOHN N. BALL, Buffalo, N. Y.—*Eave Trough, Bracket, and Cornice*.—July 30, 1867.—The metallic eave trough and cornice is attached by sheet-iron straps, and being composed of metal is fire-proof.

*Claim.*—A combined cornice, eave trough, and brackets A B D, as a new article of manufacture, constructed and used in the manner substantially as described.

**67,156.**—SAMUEL A. BARR, Pittsburg, Pa.—*Clothes-line Fastening*.—July 30, 1867.—The clothes-line passes round the rollers attached in their frames



at various points. To facilitate the attachment, the roller slips out of one of its bearings.

*Claim.*—The within-described clothes-line fastener, as a new article of manufacture, consisting of a plate A with perforated lugs B B cast upon it, which receive a pin C through their perforations, and having, also, a recess formed between, and perforated ears outside of said lugs, as and for the purpose specified.

**67,157.**—JAMES L. BESS and ADAM HAGNEY, Keokuk, Iowa.—*Plane for Cutting Blind Slats.*—July 30, 1867.—A plank is clamped edge up and the plane driven over it. The slats are cut by two side cutters, the transverse cutters and the series of splitting cutters.

*Claim.*—The arrangement of the slitting cutters E E<sup>1</sup>, edge cutters D D, and swing cutters C, in a frame A A<sup>1</sup>, expansible by means of set screws G G, all as herein described and for the purpose specified.

**67,158.**—F. A. BREWSTER, Springfield, Mass.—*Hoop Skirt.*—July 30, 1867.—The springs are not carried entirely around but connect through a portion of the circuit by tapes, this portion being extended by a bowed spring.

*Claim.*—First, the springs extending from the tape b, around the skirt to the tape b<sup>1</sup>, in combination with the bands a and one or more semi-elliptical springs d, the whole constructed substantially as and for the purpose set forth.

Second, in a hoop skirt divided wholly or partially down the front, the auxiliary ribs or tie springs f f, applied and operating substantially as and for the purpose herein set forth.

**67,159.**—WM. BROWN, New York, N. Y.—*Carpet Stretcher and Tack Driver.*—July 30, 1867.—The carpet is caught by the teeth and stretched to its position; a tack is dropped in the conductor, and the plunger being raised by the cord, is allowed to fall on the head of the tack.

*Claim.*—First, the combination of the inclined carpet stretcher with the vertical column and tack driving apparatus, arranged and operating in the manner and for the purposes described.

Second, the combination of the tack-conducting tube and the cord and pulleys, with the inclined shaft and vertical column, arranged and operating in the manner and for the purposes described.

**67,160.**—WALTER G. BROWNSON, Wellsville, Ohio.—*Relay Magnet.*—July 30, 1867.—The attraction of the receiving magnet on the armature to break the local circuit is partially counteracted by a second magnet excited by the same electric current, but acting by less force upon the said armature, either from greater relative distance or by employing magnets of different power.

*Claim.*—The use of one or more adjusting or counter-balance magnets W in combination with the armature lever K of a telegraphic relay instrument and its receiving magnet or magnets A, when said adjusting magnet or magnets are excited simultaneously with the receiving magnet by the same electrical current, the whole operating substantially in the manner and for the purpose herein set forth.

**67,161.**—CHARLES BRUSO, Jr., Worcester, Mass.—*Gas Pipe Joint.*—July 30, 1867.—The lower stem is screwed on the end of the pipe, and screws are passed through the ears that fasten the joint in place. The pipe to which the burner is attached is screwed into the upper stem and the gas turned on to fill the pipe attached to the stem. When the gas is to be lighted the valve spindle is turned up, the gas passing through the lower stem, the grooves, and the upper stem to the burner.

*Claim.*—First, the combination of the tubular stem B, and grooved disk or plate A, with the corresponding grooved cap I and its tubular stem O, under the arrangement and for operation as set forth.

Second, the combination with the concentrically grooved plates or disks, applied to each other as described, of the valve and its spindle, mounted and arranged in the joint, in the manner herein shown and described.

**67,162.**—CHARLES O. BUELL, Stamford, Conn.—*Umbrella.*—July 30, 1867.—The flange of the runner

has a groove for the ring of the stretchers which engage in notches in the flange. A grooved washer covers and secures the ring.

*Claim.*—The combination with the flange of the runner or crown piece of an umbrella, of a washer so arranged as to enclose between said flange and washer the rings or wires that hold the folding parts of the structure, substantially as described.

**67,163.**—A. G. BUZBY, Philadelphia, Pa.—*Portable Writing and Copying Case.*—July 30, 1867.—The copy book has a case in one of the boards for writing material. An inkstand is confined by an elastic band to a strip attached to the clasps.

*Claim.*—First, a copying book having a case or receptacle in one of its boards or covers, as and for the purpose described.

Second, the strip e having a recess and elastic band g for the confinement of an inkstand and pen, as set forth.

**67,164.**—GEORGE W. CARPENTER, Northville, Mich., assignor to himself and SAMUEL WILLIAMS, same place.—*Sheep Shears.*—The narrow hollow-backed blade with the curved shoulder affords a better hand-hold in shearing.

*Claim.*—The combination of the narrow blade A with the crooked brace B, and the addition of the thumb plate C.

**67,165.**—J. R. CHILES, Richmond, Va.—*Car Seat.*—July 30, 1867.—The braces retaining the back in position are double-jointed at their lower connections, so that when extended the back takes the position of a lounge, and when braced forward becomes a chair. The adjustable foot rest behind accommodates the rear seat.

*Claim.*—First, the brace I in combination with the double joint L, substantially as and for the purpose described.

Second, the combination and arrangement of the chair back B, the joint S, the cushion seat M, and the roller m, substantially as and for the purpose described.

Third, the foot rest P fixed to a ratchet bar, which slides in a socket beneath the seat, and supported by resting on the floor of the car, substantially as described.

**67,166.**—C. M. CLINTON and L. MOOD, Ithaca, N. Y.—*Calendar Clock.*—July 30, 1867.—By setting the clock at the beginning of the month the dates are indicated to the end of the month. The devices are explained in the claims.

*Claim.*—First, the construction and use of the clutch cog wheel E when made of the several parts and in the manner described, for the purpose of its combined use with and means of motion of the thirty-one, or other similar wheel of a calendar clock, thereby preventing the motion of the said wheel or wheels from being affected, or the said wheel or wheels from being misplaced by the position of the clock as described.

Second, the specific combination of the cross bar F, clutch wheel E held in place by its spring I with beveled teeth, controlled and held by the stud J, the same making a whole, and acting on the wheel B or its substantial equivalent as described.

Third, balancing the cross bar F so that the motive power of the calendar shall be in the rod c, and not in any use of the cross bar as a weight lever.

Fourth, the specific device of the tumbler M attached to any part of the cross bar F, and acting by an elbow joint or lifting action of the stop D as described.

Fifth, the projection L from the stop D, for the purpose of a point of action on the stop D by the tumbler M as described.

Sixth, regulating the action of the tumbler M by the stud O, when virtually made and acting as described.

Seventh, the combination of the wheel B, the stop D, projection L, tumbler M, stud O, and cross bar F, or equivalents thereunto, the same making a whole and being constructed and operated as described, thereby preventing the motion of the wheel B or similar wheel from being affected, or the wheel itself from being misplaced by the position of the clock as set forth.



**67,167.**—GEORGE N. CUMMINGS, Providence, R. I.—*Eye Glass*.—July 30, 1867.—The spring bridge-piece which spans the nose forms a guide for the loops on the edges of the bows.

*Claim.*—The employment or use of the guides E E when operated in the manner and for the purposes set forth.

**67,168.**—HARMON V. DAVIS, Amherst, N. H., and GEORGE E. SMITH, Blakesville, N. H., assignors to GEORGE E. SMITH.—*Seeding Machine*.—July 30, 1867.—The wheel has cams on its side which engage with the vibrating lever and agitate the seed hopper to keep a regular flow of seed, which discharges through the spout that makes its own furrow.

*Claim.*—First, the seed box or hopper D, mounted upon the vibrating lever C, and operated from wheel B, in the manner substantially as described.

Second, the vibrating hopper, arranged and operating as described, in combination with the funnel-shaped seed run or discharge opening substantially as described.

Third, the vibrating hopper, provided with discharge openings of different sizes, and arranged to turn upon a central pivot as described.

**67,169.**—CHESTER F. DEAN, St. Johnsbury, Vt., assignor to himself and JOHN S. PARKER, same place.—*Knife Cleaner*.—July 30, 1867.—The box is clamped to the table and the knife is reciprocated longitudinally between the india-rubber rollers, which are covered with leather. The box contains the polishing material.

*Claim.*—The combination and arrangement of the presser C and its screw E, with the box A, and its elastic lips, substantially as described.

Also, the combination of the spring D with the presser C, its screw E, and the box A, having elastic lips as described.

Also, the combination of the slide B and the grooves s s, with the box A, the presser C and its strip of leather d, applied to an india-rubber cylinder e, or its equivalent, the whole being substantially as specified.

**67,170.**—E. DE LA GRANGA, Boston, Mass., assignor to himself and HERMAN SUSMANN, same place.—*Embalming and Preserving Dead Bodies*.—July 30, 1867.—A solution of sulphurous acid and the sulphites of soda, potash, or lime in water, or alcohol, is injected into the aorta. The cavities of the body, head, thorax, and abdomen are filled with tannin, gun cotton, camphor, and rosin dissolved in absolute alcohol or ether and stiffened with cotton and wax.

*Claim.*—First, the preparation above described for injection into the veins and arteries, substantially as specified.

Second, the preparation above described for filling the cavities of the head, chest, and abdomen, substantially as specified.

Third, the process of preserving dead bodies above described.

**67,171.**—HENRY DICKINSON, Jersey City, N. J.—*Mold for Casting Ingots*.—July 30, 1867.—The mold is a single tubular conical piece and the movable bottom permits the extraction of the ingot. The object is to obviate the ridges made by a sectional mold.

*Claim.*—The above-described construction and arrangement of a mold for casting steel and other ingots, substantially as and for the purposes set forth.

**67,172.**—GEORGE DIFFENDERFER, Lewisburg, Pa.—*Portable Oven for Drying Fruits*.—July 30, 1867.—The chamber has double walls constituting hot-air flues around it, and it is inserted between the sections of stove pipe. The chamber is strengthened by bolts and by the shelves therein.

*Claim.*—A double-wall portable fruit drier which is adapted for application to a stove in place of a portion of the stove pipe, and which is constructed and strengthened, substantially as described and shown.

**67,173.**—W. A. and C. E. DRYDEN, Monmouth, Ill.—*Cultivator*.—July 30, 1867.—The split tongue reaches back to brace the rear of the frame, leaving an open space for the working of the plow handles.

These are operated by the driver on foot or sitting on the seat attached to a pivoted frame, which, when out of use, is lifted up out of the way.

*Claim.*—First, the frame a a, in connection with the extended braces b b, substantially as described and for the purpose set forth.

Second, the slotted axle, in combination with frame a a, and seat pieces h h, for the purpose set forth and substantially as described.

Third, the sliding seat piece k, in combination with pieces h h, for the purpose set forth.

Fourth, the vertical adjustment of seat as described.

Fifth, the arrangement of pieces, y y w w and x, for giving circular motion, substantially as described.

Sixth, the slotted fulcrum, in combination with the frame a a, for the purpose set forth and substantially as described.

**67,174.**—ROBERT DUNBAR, Buffalo, N. Y.—*Water Wheel*.—July 30, 1867.—The step is supported on inclined legs attached to an extension of the case. Immediately below the step is a disk attached to the bearings, and the step is enclosed in a chamber of which the disk forms the bottom, a horizontal plate extending cylindrically downward, forming the top and sides. This chamber communicates by a pipe with the head water to partially sustain the wheel by pressure on the chamber top.

*Claim.*—First, the rim F, connected with and extending downwardly from the plate K, on a circle of less diameter than the hub of the wheel, so as to form, in combination with the plate K and stationary disk E, the lesser annular chamber G, and in combination with the hub the larger annular chamber J, for the purposes and substantially as described.

Second, the holes j<sup>1</sup> in the plate K, opening a communication between the chambers M and N through the annular chamber J, substantially as shown and described.

**67,175.**—ROBERT DUNBAR, Buffalo, N. Y.—*Water Wheel*.—July 30, 1867.—The hub to which the buckets are attached is cylindrical in the lower section, and outwardly and upwardly inclined in the upper section. The upper portions of the buckets are inclined forward. The water is received at the side entrance, and has exit beneath.

*Claim.*—First, a hub made flaring in the upper part thereof, as represented at A, in combination with the forward inclination of the bucket, in connection therewith, for the purposes and substantially as set forth.

Second, giving a plane surface to the lower part of the face of the bucket of said wheel, lying between the cylindrical part of the hub and the anti-friction band D, substantially as described.

**67,176.**—W. A. DUNCAN, Syracuse, N. Y.—*Machine for Raking and Loading Hay*.—July 30, 1867; antedated July 13, 1867.—The teeth projecting through the opening in the cylinder convey the hay from the rake of the suspended rake-bar and project it onto the endless apron, which discharges it on the wagon. A clearing plate clears the ground in front of the wheels.

*Claim.*—First, the rake bar O, suspended by the standards N from the draw bar J<sup>2</sup>, hung by the adjustable rods K on hooks L, in combination with link pieces R, pivoted at one end to the projecting arms T of the draw bar J<sup>2</sup>, and at the other end to the projecting arms S of the rake bar O, substantially as described for the purpose specified.

Second, the clearing board D<sup>3</sup>, attached to the extension arms E<sup>3</sup> and gatherer board F<sup>2</sup>, hung from the triangular frame G<sup>2</sup>, all secured to the frame A, when arranged to operate together substantially as described for the purpose specified.

**67,177.**—HENRY V. EDMOND, Norwich, Conn.—*Apparatus for Exhibiting Hymns, &c.*—July 30, 1867.—The hymns, illustrations, or exercises are inscribed on a belt or apron of sufficient length, which runs over rollers so as to display the required portion to the audience.

*Claim.*—The arrangement of the winding rollers B C, approx D, and friction rollers I J, substantially as shown and described for the purpose specified.

**67,178.**—HENRY L. ESHELMAN, Elizabethtown, Pa.—*Harrow*.—July 30, 1867.—The side pieces are



adjustable on their segmental cross-bars. The adjustable pole sliding on the curved standard regulates the height of the draft.

*Claim.*—The arrangement of the double segments or curved cross-pieces K K<sup>1</sup>, in combination with the adjustable pole O P and hinged side pieces or beams B B<sup>1</sup> and C C<sup>1</sup>, in the manner and for the purpose specified.

**67,179.**—GEORGE A. FAIRFIELD, Hartford, Conn.—*Thread Controller for Sewing Machines.*—July 30, 1867.—The slack of the thread is taken up by an oscillating lever adjustably pivoted to the needle bar, and connected to the frame by its inner end, the thread passing through a hole in its outer end.

*Claim.*—A thread controller, consisting of a lever and connecting-bar, arranged substantially as herein described and for the purpose herein set forth.

**67,180.**—DANIEL P. FARNHAM, Janesville, Wis.—*Broom Head.*—July 30, 1867; antedated July 15, 1867.—The broom straw is fastened by two clamps to the handle, screws piercing the clamps and straw and engaging holes in the handle or its flat extension plate.

*Claim.*—First, the combination and arrangement of the handle A, cap B, and the clamp D, secured to the cap, and operated by the screws C C, that have their threads working into each other, when the whole are constructed, arranged, and used in connection with the proceeds of winding or covering the ends of the corn, substantially as and for the purpose set forth.

Second, the combination and arrangement of the handle A, cap B, and clamps D and E, operated by the screws C and F, when the whole are constructed and used substantially as and for the purpose set forth.

**67,181.**—JOHN FARRAR and WILLIAM GROVES, Providence, R. I.—*Mold for Casting Metals.*—July 30, 1867.—The flask is divided longitudinally into perforated sections, which are hinged together and contain coarse and fine porous material to allow the escape of gases and vapor from the casting. The parts are locked together while in use and expand to remove the casting.

*Claim.*—The combination, in any flask for casting the above named articles, of the outer case A, the flanges a a, the coarse inner lining B, composed of certain suitable materials, as set forth, and a finer grained lining C, composed of another combination of materials, to be mixed and applied substantially as described.

**67,182.**—HARRIET M. FISH, New York, N. Y.—*Rouge Pad.*—July 30, 1867.—A pad of cotton flannel with a pile on both sides is treated with a solution of carmine, juice of blood beet, strawberry and holly-hock root, and extract of sweet clover.

*Claim.*—First, uniting or combining with a soft cotton or other suitable fabric a solution consisting of the afore-mentioned ingredients, without being confined to the proportions thereof as therein given.

Second, the manufacture of a rouge pad by uniting or combining with a soft cotton or other suitable fabric a coloring matter, consisting of the above-mentioned ingredients, or their equivalents for this purpose, substantially as described.

**67,183.**—MARY F. FITCH, Lockport, N. Y.—*Ruffling Attachment for Sewing Machines.*—July 30, 1867.—A weighted cord is attached by a hook to the straight piece of cloth to give it the required tension, which is regulated by a pressure disk, spiral spring and set screw. A roller separates the strips of cloth.

*Claim.*—The combination of the weight H, cord E, bearing g and hook f, or equivalent, substantially as and for the purpose set forth.

Also, in combination therewith the roller S, arranged and operating substantially in the manner and for the purpose specified.

Also, the special combination of the spiral spring p, washer o, friction rings n, nut and set screw q r and loose pulley g, with the weight H, cord E, hook f, and roller S, the whole arranged and operating as described.

**67,184.**—LOUIS FITZMAIER, New York, N. Y., assignor to ATWATER, BENHAM & Co., same place.—*Ornamenting Tin, &c.*—July 30, 1867.—An impression from the stone is taken on transfer paper, backed

by metallic foil, and transferred to the metallic plate.

*Claim.*—First, ironing prepared paper on its back side by means of a hot plating iron for the purpose of obtaining a straight and glossy appearance of the same, substantially in the manner and for the purpose described.

Second, the use of a composition consisting of lithographic varnish and chrome yellow, substantially in the manner and for the purpose described.

Third, rolling over the moist side of the paper by a wooden, flannel-covered hand roller, whereby a uniform impression of the drawing is produced on the tin, &c., substantially as described.

**67,185.**—CHAS. FOBES, Whitewater, Wis.—*Coffee Generator.*—July 30, 1867.—To be used in an ordinary coffee pot. The vessel has perforated sides and bottom, and a vertical tube terminating in a funnel at top and a strainer below. The ground coffee is put in the chamber, and steeped by hot water poured in through the tube.

*Claim.*—As a new article of manufacture a coffee generator, constructed as described.

**67,186.**—FRANCIS FRAPS, Springfield, Mass., assignor to himself and B. C. ENGLISH, same place.—*Spring for Beds and Lounges.*—July 30, 1867.—The wire spring is wound around a perforated plug, and twisted in the form of loops; it passes through the plug, and is attached to ears on the frame.

*Claim.*—A spring for beds, lounges, &c., formed of wire a, wrapped around a cylinder b, so that a loop extends out from each side at an angle, the ends of the wire being inserted in the ends of cylinders, substantially as described.

**67,187.**—W. J. GARLAND and N. MORGAN, Winchester, Ill.—*Adjusting Tires to Wheels.*—July 30, 1867.—The ends of the tire taper, so as to slip on each other to tighten on the felloe, as the set screw is rotated in the lugs attached near the ends of the tire.

*Claim.*—The arrangement of the tier D D', with its lugs E and F, screw a, bolt b and slot c, substantially as described, in combination with a continuous felloe A and its chamber B, constructed substantially as and for the purpose set forth.

**67,188.**—WILLIAM GILMAN, Ottawa, Ill.—*Plow Beam.*—July 30, 1867.—Explained by the claim and illustration.

*Claim.*—The employment for plow beams of a hollow and tapering wrought-iron pipe, substantially as described in the foregoing specification.

**67,189.**—DERRICK N. GOFF, Wolcottville, Conn.—*Machine for Lining Percussion Caps.*—July 30, 1867.—The disk of foil is cut by one punch, and inserted by an axial sliding rod simultaneously with the disk being inserted in the cap preceding. The plate holding the caps is intermittently fed by a feed roller, actuated by a ratchet wheel and pawl.

*Claim.*—The punch g to cut out the disk of foil, in combination with the pressing punch h and mechanism for presenting the percussion caps successively, substantially as set forth.

**67,190.**—DERRICK N. GOFF, Wolcottville, Conn.—*Machine for Trimming Percussion Caps.*—July 30, 1867.—The caps are placed in dies and passed beneath a rotating cutter disk to trim the edge.

*Claim.*—A revolving cutter formed with a chisel edge, in combination with a die to hold a percussion cap, while the edge thereof is trimmed by the action of said revolving cutter, as set forth.

**67,191.**—W. S. GRAY, Worcester, Mass.—*Bread Cutter.*—July 30, 1867.—A loaf is placed on the table in front of the block; as the knife descends it makes a shear cut, the cam strikes the lever, drawing the feed bar and advancing the loaf the thickness of another slice.

*Claim.*—First, the combination, substantially in the manner described, in a bread-cutting machine, of a sickle-shaped cutter, rotating in a vertical plane parallel with a head block moving in a path at right angles to the cutter, for the purposes specified.

Second, the combination of the cutter, the crank



handle, and the brace, all arranged and operating as described.

Third, the combination, substantially as described, of the head block, the feed bar, and the working lever with the cam on the cutter shaft, for the purpose set forth.

Fourth, the combination, as described, of the feed bar, the retracting spring, and the adjusting screw, with the pawl on the head block, for the purpose of regulating the thickness of the slice.

**67,192.**—EDWIN L. HALL, Utica, N. Y.—*Locomotive Head Light*.—July 30, 1867.—Currents of cool air are passed through tubes in the case to reduce the temperature. These tubes allow the escape of heated air from the lamp, but no return current.

*Claim.*—The tube B, constructed and operating substantially as described, and for the uses and purposes mentioned.

**67,193.**—DAVID B. HEDDEN, Newark, N. J.—*Step Ladder*.—July 30, 1867.—The steps are attached to the side pieces by dowels and rabbets. The brace and stay are made of bent stuff, are hinged and may be laid parallel with the side pieces.

*Claim.*—The strips A B, brace F, and stay G, made of bent stuff, substantially in the order and for the purpose named.

**67,194.**—WM. H. HENSHALL, Philadelphia, Pa.—*Tube Hole Cutter*.—July 30, 1867.—The collar is adjusted about the thickness of the sheet from the end of the annular cutter. The spring center point maintains the position and the revolution of the cutter makes a circular hole, which is countersunk by the tool on the collar.

*Claim.*—First, the improved tool, as a whole, constructed and arranged as herein shown and described.

Second, the combination of the cutter D, adjusting collar F, and the countersink-tool G, constructed and arranged as shown and described.

Third, the combination of the threaded spindle A, feed-wheel or nut C, spiral spring E, collar G, and the cutter D, constructed and arranged as shown and described.

**67,195.**—SETH W. HERRICK and CHARLES G. GILBERT, Jr., Salem, N. J.—*Machinery for Preparing Floor Oil Cloth*.—July 30, 1867.—The sized fabric is drawn from the roller on which it is wound and passes between heated weighted cylinders. To stretch out kinks the upper heated cylinder is raised by a treadle, which motion also clamps the tension roller.

*Claim.*—The described arrangement of the rollers D and D', the cylinders C and C', the friction pulley H, with its strap *h'* and treadle *h''*, and the weighted swinging-frame E, the said parts being combined together in a suitable frame A B, so as to operate substantially as and for the purpose described.

**67,196.**—JAMES L. HOWARD, New York, N. Y.—*Clothes-line Hook*.—July 30, 1867.—Explained by the claim.

*Claim.*—A clothes-line hook, constituted of a rigid bracket extending into the form of a hook, between the jaws of which there is embraced and supported a roller of non-corrosive material turning on a vertical or nearly vertical axis, the whole being combined and applied substantially as described for the purposes explained.

**67,197.**—ROBERT J. JORDAN, Elkhart, Ind.—*Belt Coupling*.—July 30, 1867.—The lap of the belt is embraced between metallic slotted plates, which are secured by capped and spear-head rivets.

*Claim.*—The plates B, provided with inclined depressions or pieces *e*, formed on the sides of the slots *c* and *c'*, and spear-head rivets *b*, in combination with the belting A, substantially in the manner and for the purpose as herein set forth.

**67,198.**—ANSON JUDSON, Brooklyn, N. Y.—*Printing Press*.—July 30, 1867.—The bed is moved simultaneously with the cylinder by a straight rack on the former, and a segmental rack on the latter. To effect the return of the bed during continued rotation of the cylinder a pin on the latter engages the jaws of an oscillating arm having a segmental rack

engaging a spur wheel, whose shaft has a wheel engaging a rack on the bed.

*Claim.*—First, the combination with the segment H of the pin G and jaws J, by which the said segment is rotated intermittently to produce, by means of the pinion K, wheel M and rack N, or their equivalents, the backward motion of the bed, substantially as set forth.

Second, the combination with a cylinder B, having segments E at each end, which mesh intermittently into racks D at each side of the table of the segment H, driven intermittently by the pin G, substantially as and for the purpose hereinabove described.

**67,199.**—CHARLES S. KERSHAW, Sherburne, N. Y.—*Suspending Claw for Horse Hay Forks*.—July 30, 1867.—The block has self-acting gripping jaws which embrace the rafter.

*Claim.*—As an article of manufacture the suspending claw, the same consisting of the jaw A, provided with hook *a* at one end, and the connecting hook or eye *b*, at the other end, and combined at right angles with the claw C *c*, by means of pivot D, substantially as herein described, and for the purpose specified.

**67,200.**—THOMAS K. KNAPP, Worcester, Mass., assignor to JOHN GOULDING, same place.—*Knife Sharpener*.—July 30, 1867.—The longitudinally serrated bar is adjusted by a set screw in a slot between the forks. The edge of the knife to be sharpened is drawn through the acute-angular track thus formed.

*Claim.*—First, the peculiarly-formed frame with its four forks C, and a hole through its center to receive the sharpening bar B, substantially as shown and set forth.

Second, cutting the teeth *a* upon the sharpening bar B, substantially as and for the purposes set forth.

Third, the combination with the double-forked frame A of the sharpening bar B, set on thumb-screw D, ferrule E, and handle F, constructed and combined together substantially as and for the purposes set forth.

**67,201.**—DANIEL LINCOLN, Johnsonburg, N. Y.—*Horse Collar*.—July 30, 1867.—The collar is divided at its lower part, and metallic strap eyes project from the ends, which are engaged by a pin.

*Claim.*—A locking or coupling device, as herein described, inserted into or connected with the lower parts of a horse collar, for the purpose set forth.

**67,202.**—HIRAM and CHARLES LITTLEFIELD, Tewksbury, Mass.—*Corn Cake Machine*.—July 30, 1867.—The stamping follower has a series of blades projecting downward with springs, to keep it above the barred pressing follower, except when under hard pressure. The cake is placed in a frame and slid beneath the followers, which press the same and mark it so that it is easily divided.

*Claim.*—First, the pressing follower, when constructed as shown and described, viz., with stationary or unyielding bars B, and arranged to operate as and for the purpose specified.

Second, and in combination with the pressing follower, constructed as described, the stamping follower A, and blades *k*, springs C, and pressing frame G, in the manner and for the purposes set forth.

**67,203.**—WILLIAM G. MCGARGY, Kutztown, Pa.—*Water Wheel*.—The water is admitted by peripheral sliding gates operated by a lever and crank. The inner sides of the scroll buckets have a tangential direction.

*Claim.*—The slanting scroll buckets A, sliding gates B, lever C, and crank D, when constructed, arranged, and operated as herein described, and for the purposes set forth.

**67,204.**—PHILIP C. McMANUS, Troy, N. Y.—*Steam-engine Slide Valve*.—July 30, 1867.—The tubular post forms an adjustable, upper valve seat to the cut-off valve, which slides upon the usual slide valve. The post is held in a slide socket, and is adjustable by jam-nuts, having blocks of rubber beneath to allow a limited movement and downward pressure to the post.

*Claim.*—The steam tube or port A, provided with



flanges D and shoulder X, pressing on the valve C, substantially as set forth.

Also, the guide H, substantially as described, to hold in properly adjusted position on the valve C the steam tube A, as set forth.

Also, the arrangement of the steam tube A with the india-rubber springs N N, for the purpose of giving to the flange D of the steam tube A a constant yielding pressure upon the valve C, substantially as herein described.

Also, the arrangement of the collar I, bolts K, and nuts L, and india-rubber springs N, substantially as set forth and described.

**67,205.**—FRANCIS MCTARNAHAN, Santa Clara county, Cal. — *Churn Dasher*.—July 30, 1867. — The circular metallic dasher has diagonal and four eccentric fins. It is rotated by a hand crank, gearing to the vertical shaft.

*Claim.* — A churn dasher constructed as herein described.

**67,206.** — STEWART MILLER and IRA J. CHASE, Barrington, Ill. — *Fanning Mill*. — July 30, 1867. — Explained by the claim and illustration.

*Claim.* — The lower and the upper floors A and B of the fan chamber, shaped so as to direct the blast of the fan upwards under the sieves, and constructed substantially as herein set forth and specified.

**67,207.** — JOHN O. MINER, Wapello, Iowa. — *Hedge Shears*.—July 30, 1867.—The hooked edges of the shears are near the fulcrum pivot, enabling the cutting of strong branches. The spring helps to open the blades, and the adjustable stop prevents its closing too far.

*Claim.* — First, constructing shears with cutting edges *b b'* and cutting edges *a a'*, substantially in the manner described, and for the purposes specified.

Second, the adjustable stop *f*, applied to one of the shear arms, substantially as and for the purpose described.

Third, the supporting strap C, applied to trimming shears, substantially as described.

**67,208.**—FRANCIS B. MORSE, New Haven, Conn. — *Whiffletree Coupler*.—July 30, 1867; antedated June 7, 1867.—The inner cylinder is socketed in the outer one, and secured by a lug working in a recess of its sleeve. A spring beneath the head of the bolt prevents rattling.

*Claim.* — The combination of the elastic presser with the recess *d* and the screw bolt *e*, when the whole is constructed, combined, and fitted for use, substantially as herein described.

**67,209.**—SMITH O'BLENIS, Greensburg, Pa., assignor to himself and C. H. STARK, same place.—*Car Coupling*.—July 30, 1867.—The link entering the drawhead strikes the inclined edge of the hook, raising it up sufficiently to allow it to engage, and the hook is raised to uncouple the link, by lifting on a lever projecting through a slot in the upper part of the draw-head.

*Claim.*—First, the hook E, constructed, arranged, and operating as described.

Second, the combination substantially as described with the bell-mouth casing of the slotted yielding coupling-hook, having both a horizontal and vertical movement in its bearing, whereby the hook acts as a bumper, and is also made self-locking.

**67,210.**—PAUL A. OLIVER, Elizabeth, N. J.—*Bayonet Attachment*.—July 30, 1867.—The spring catch of the socket engages a projection on the barrel immediately under the bayonet shank.

*Claim.*—A spring catch D D', arranged as represented relatively to the bayonet-socket B b, and adapted to operate relatively to the barrel A, and projections *a*, or its equivalent, substantially in the manner and for the purpose herein specified.

**67,211.**—HENRY PEASE, Brockport, N. Y.—*Harvester*.—July 30, 1867.—The internal gear driving wheel, secured to the ground wheel, meshes into the pinion whose shaft turns the bevel wheel that gears into the bevel pinion whose crank shaft actuates the pitman.

*Claim.*—First, the hub D, in combination with the

pitman *u*, crank 40, bevel wheel *y*, bevel pinion 41, rollers *b b*, seat supports *c c'*, arm or arms *d d*, pitman passage R, and ground wheel B, substantially as described and for the purpose set forth.

Second, the hub D, in combination with the arms *d d*, pitman *u*, and pitman passage or opening R, substantially as described and for the purpose set forth.

Third, the hub D, in combination with the rollers *b b*, pitman *u*, hollow bearings *r r*, and pitman passage or opening R, substantially as described and for the purpose set forth.

Fourth, the double or grooved rollers *b b*, in combination with the hub D, and tread ring *o*, and internal gear 46, substantially as described and for the purpose set forth.

**67,212.**—CHESTER PENFIELD, New Britain, Conn. — *Door Bell*.—July 30, 1867.—The revolving prong cam is attached to the spindle, and on being pulled, one prong braces itself against a plate while the opposite prong engages and then releases the hammer.

*Claim.*—The revolving prong cam *h*, in combination with mechanism for striking a bell, substantially in the manner as described.

**67,213.**—N. PETRE, New York, N. Y., assignor to himself and JOSEPH H. SUGGETT.—*Lock Latch*.—July 30, 1867.—The rear end of the bolt has a projection, which enters one of a series of rectangular recesses in the periphery of the hub, and is retained there by a spring. The eccentric is turned by a key to raise the bolt-catch from the hub, so that its oscillation will not affect the latch.

*Claim.*—First, the eccentric barrel K, in combination with the latch bolt F, and notched hub E, substantially as described for the purpose specified.

Second, the notched eccentric K, in combination with the spring latch bolt F, and notched hub E, as described, whereby the latter is prevented from engaging with the latch F, when locked, substantially as described for the purpose specified.

**67,214.**—WM. H. POLLARD, Seneca Falls, N. Y., assignor to DOWNS & CO.'S MANUFACTURING COMPANY, same place.—*Cut Off Stop Cock*.—July 30, 1867.—The discharge spout, and the neck to which it is coupled, have semi-partitions. When the spout is turned up by the clamping nut, the two portions of the partition close the passage.

*Claim.*—The valved, swiveled spout C', and clamping nut D, in combination with the valved outlet pipe C of a double-discharge pump, the whole arranged and operating in the manner and for the purpose herein set forth.

**67,215.**—EBENEZER PURDY, Ithica, N. Y.—*Sealing Fruit Jars*.—July 30, 1867.—Explained by the claims and illustration.

*Claim.*—First, making a tubular orifice in the cover of a fruit can, with the larger end of the tubular opening on the inside of the jar, for the purpose of closing the opening by a suitable plug or cork drawn or inserted in the same from the inside of the can, as described.

Second, making a suitable plug to fit the described tube or orifice, retracting and inserting the same from and into the said orifice or opening from the inside of the can or jar, for the purpose of opening and closing the same at pleasure, as described.

Third, attaching the described cork or plug to a cord E, or other suitable instrumentality, for the purpose of bringing the plug from the inside of the jar tightly into the opening, as described.

Fourth, the combined whole, made of the parts D, the tube or tubular opening in the cover C, the cork or plug E, inserted from the inside of the jar, string, wire, or instrument E, holes G, operating together, substantially as described.

**67,216.**—FRANKLIN RANSOM, Buffalo, N. Y., assignor to T. F. FRANK, same place.—*Carbureting Apparatus*.—July 30, 1867.—The air is pumped into the carbureting chamber by means of meter wheels revolving in a water chamber. It passes by a pipe to a chamber supplied by a "fountain" with hydro-carbon, and thence passes through a body of fibrous material, saturated with hydro-carbon, to the holder above, which consists of an inverted vessel in a chamber of liquid.



*Claim.*—Two or more air wheels B, mounted on the same shaft, and connected by the concentric cylinder L, in combination with the receiver C, and tub A, arranged substantially as and for the purpose set forth.

Also, in combination with the wheels B B, the brakes h h, actuated by the float M and lever v, for regulating the operation of the apparatus, substantially in the manner specified.

Also, the regulating vessel J, and tube N, arranged within the carbureting vessel E, and operating substantially as described.

Also, the shield G, in combination with the fibrous material H, and vessels J E, as and for the purpose specified.

Also, in combination with the carbureting vessel E, the reservoir F, for supplying the hydro-carbon liquid to the former, operating in the manner set forth.

**67,217.**—JOHN T. RICH, Philadelphia, Pa.—*Manufacture of Gas.*—July 30, 1867; antedated March 25, 1867.—The steam boiler is connected by a superheating coil with a vessel containing hydro-carbon liquid in a vessel communicating by a pipe with a retort. The pipe, extending from a super-heated steam pipe, terminates in front of the funnel-shaped mouth of a pipe which enters the condenser and terminates near the bottom. The condenser connects by a pipe with the retort.

*Claim.*—First, the process for preparing atmospheric air for chemical union with decomposed hydro-carbons for the purpose of forming a permanent heating or illuminating gas, substantially in the manner set forth.

Second, the combination of the steam pipe h, funnel-formed mouth a of the pipe b, and condenser K, said parts being constructed and arranged substantially as set forth.

Third, mixing a purified product of atmospheric air with hydro-carbon gas for dilution, either before or after decomposition of the fluid or other hydro-carbon, substantially as set forth.

**67,218.**—C. ROSENBERRY and T. WORTH, Chicago, Ill.—*Sifter, Egg Beater, and Spice Mixer.*—July 30, 1867.—The beaters are rotated in contrary directions within the box, which has a shutter beneath to allow exit to the beaten matter.

*Claim.*—First, the revolving heads D and D', so connected by rods that they can be separated for the insertion of various styles of beaters to adapt the implement to different uses when said heads are mounted on a revolving shaft, and placed in a case A, substantially as described.

Second, the combination of the beaters I, mounted on the shaft B, having the wheel M attached, and the beaters E, driven by the tube C and wheel N, when arranged to be operated by the double wheel K K', as shown and described.

**67,219.**—THOMAS B. RUSSELL, Salem, Mass.—*Gear Cutting Wheels.*—July 30, 1867.—The spindle to which the wheel is attached passes through two boxes which have side gudgeons allowing an oscillatory adjustment in the same by raising the rear one in its swinging slide when cutting bevel gear. The device is attached to a lathe.

*Claim.*—The combination of the spindle M, pivoted boxes F and L, the sliding frame E, and the swing brace D for the purpose specified.

Second, the improved apparatus when the several parts are made and arranged substantially as described and used for the purpose set forth.

**67,220.**—RUFUS S. SANBORN, Ripon, Wis.—*Fire-proof Powder Magazine.*—July 30, 1867.—The double walls of the chamber enclose vessels containing water, and the inner shell is perforated to allow the passage of steam to the inside.

*Claim.*—The application of a bath of steam to the interior of a magazine or other vessel for the reception of gunpowder or other explosive materials, in order to secure the contents from explosion when the magazine or vessel is exposed to a high degree of heat.

**67,221.**—E. E. SEYMOUR and S. J. TAYLOR, Rome, N. Y.—*Combined Horse Rake and Hay Spreader.*—July 30, 1867.—The double-headed rake

has a middle section with transverse rods for retaining a larger amount of hay. When raised and actuated by the endless band connecting the grooved pulley with the grooved driving wheel it becomes a rotating tedder.

*Claim.*—First, a revolving rake provided with a driving band, and with stops K or their equivalents, so that the implement may be adjusted to be used as a rake or as a tedder as may be desired, by sliding the rake head toward or away from the driving wheel as and with the effect set forth.

Second, the revolving rake head M mounted in bearings at the ends of the sliding arms B B, so that the same movement by which the rake head is brought in contact with the stops will loosen the band G and it will cease to operate the rake.

Third, in combination with the rake head M and sliding bars B B, the levers F E and L, substantially as and for the purposes set forth.

Fourth, in combination with the arms B B and guides I I, the adjusting screws R R substantially as and for the purpose set forth.

**67,222.**—J. H. SHERMAN, Galesburg, Ill.—*Rolling Cutter for Plows.*—July 30, 1867.—The frame of the cutting wheel is attached by sockets to the standard; the cutter follows behind the standard and has lateral play.

*Claim.*—First, the frame B B', separate from the standard but attached to it by means of sockets or socket, allowing a lateral play of the frame about the standard substantially as set forth.

Second, the form of sockets C C fitting the standard at its front edge, but sufficiently open at the back part to allow a lateral swing of the frame, substantially as and for the purpose set forth.

**67,223.**—O. F. STEDMAN, Ravenna, Ohio.—*Watch.*—July 30, 1867.—The band passes around the works between the two plates excepting that portion which is occupied by the barrel, and is attached by its ends to the pillars. The holes leading into the case where the catches work are packed with india-rubber.

*Claim.*—First, the band or spring E with its ends embracing the pillar posts on each side of the barrel closing the space between the plates C and D of the movement as and for the purpose set forth.

Second, the packing d d in combination with the band or its equivalent for the purpose of closing the channel substantially as specified.

**67,224.**—O. F. STEDMAN, Ravenna, Ohio.—*Watch Case.*—July 30, 1867; antedated February 22, 1867.—The diaphragm is interposed between the works and the interior channel of the case and furnishes the supporting shoulder for the movement plate.

*Claim.*—The diaphragm G when arranged in connection with the case in such a manner as to form a shoulder for the support of the movement plate K, and so constructed that it is held in position by the movement screw a or its equivalent, substantially in the manner and for the purpose described.

**67,225.**—FREDERICK STONE, New York, N. Y.—*Oiler.*—July 30, 1867; antedated July 17, 1867.—A drip cup at the base of the nozzle tube connects with a bent tube which supplies air as the oil passes out. The tube is a channel for the oil in the drip cup to re-enter the can when standing on its base.

*Claim.*—The bent or folded air tube d, applied to one oiler, in the manner and for the purpose set forth.

Also, the drip cup c, and tube d, in combination with the oiler, substantially as and for the purposes set forth.

**67,226.**—DANIEL TAINTER, Worcester, Mass.—*Feeding Apparatus for Carding Machines.*—July 30, 1867.—The aprons feed two layers of the material together to produce a thicker and more uniform lap.

*Claim.*—The combination with a carding machine, picker or lapper, of two or more feed aprons or creepers, arranged relatively to each other as herein described, so as to deliver the material they carry to a single set or pair of feed rolls.

**67,227.**—JOHN BLAKE TARR, Chicago, Ill.—*Cast Steel Car Wheel.*—July 30, 1867.—The steel while in a semi-liquid state is subjected to considerable pres-



sure in a mold, expelling gases from the metal and condensing the fibers thereof.

*Claim.*—A cast-steel car wheel which has been condensed by high pressure when in a molten state after it has received its general final shape, substantially as and for the purpose described.

**67,228.**—WILLIAM TEMPLETON, Rockville, Pa.—*Milk Pan.*—July 30, 1867.—The pan has an air chamber around its rim to enable it to float in water.

*Claim.*—The combination of a pan or vessel A, and an air chamber X, substantially as and for the purpose described.

**67,229.**—JOEL TIFFANY, Albany, N. Y.—*Treating Paper Stock to make Pulp.*—July 30, 1867.—The boiling solution is prepared in a separate vessel and is forced by pressure into the stock contained in a boiler exhausted of air.

*Claim.*—The introduction and use of a highly heated boiling liquor into the stock, inclosed in a close boiler immediately after the air has been exhausted therefrom, in combination with the vacuum produced within the boiler by such exhaustion of the air, substantially in the manner and for the purpose above described.

Also, the above process in combination with the use of atmospheric or pneumatic pressure, substantially in the manner and for the purpose above described.

**67,230.**—DAVID R. TORBET, Columbus, Ga.—*Cotton Press.*—July 30, 1867.—The press box is hung to swing around on a pivot from under the frame to be filled, and after swinging back is securely attached. The lower portion of the press box opens to remove the bale.

*Claim.*—So constructing and arranging of the press box and its connected co-operative parts as that it may be swung clear out from under the platen or frame to be filled, and swung back and fastened so that pressure from one or both ends may be applied, substantially in the manner and for the purpose described.

**67,231.**—C. ULMER, Mobile, Ala.—*Cotton Bale Tie.*—July 30, 1867.—The looped end of the hoop enters the slot of the buckle and is held by the expansion of the cotton. The teeth at the corners of the buckle sink into the cotton.

*Claim.*—The within described buckle or tie provided with opening D, slot e, and toothed corners c c c c, substantially as and for the purpose set forth.

**67,232.**—MARCUS VANDERHOVEN, Utica, N. Y.—*Dust Pan.*—July 30, 1867.—The floor is attached to the middle of the side pieces, the pan being used on either side; its edges clinging to the floor obviates the necessity of holding it in position while using.

*Claim.*—The mode of connecting the bed or plane C, with the sides A, and back B, upon their inner surface, at a line nearly or quite central, as represented in figures 1 and 2, the whole being arranged as and for the purpose set forth.

**67,233.**—JAMES R. VAN HORN and J. B. ROBERTS, Newtown, Pa.—*Roofing Composition.*—July 30, 1867.—A rock, found on the banks of the Nesamony river, Pennsylvania, and composed of iron, clay and steatite, is pulverized and mixed to the proper consistence with coal tar or naphtha.

*Claim.*—The combination with coal tar or naphtha of the mineral above described, as a composition for roofing.

**67,234.**—JAMES D. VAN ZANDT, Brooklyn, N. Y.—*Cork Pull.*—July 30, 1867.—The prong being inserted, the sliding portion is depressed, rotating the cross piece which bears against the end of the cork as the latter is withdrawn.

*Claim.*—The construction of the prong of a cork drawer in two parts, the one part in the handle, the other sliding upon the fixed prong, combined with the pivoted swing bar, the whole arranged and operating in the manner and for the purpose described.

**67,235.**—TIMOTHEUS VOGELMANN, Hamilton, Ohio.—*Step Ladder.*—July 30, 1867.—The hinge clasps connecting the ladders slide in grooves and are stayed

by double mouthed hooks engaging a round either in the position of a step or extension ladder.

*Claim.*—First, the ladder A, constructed with the grooves a a, in combination with the ladder B, constructed with the ribs g, arranged and operating in the manner and for the purpose described.

Second, the hinge clasp C, represented in figure 4, in combination with the rails of ladder A, all constructed, arranged, and operating in the manner and for the purpose described.

Third, the combination of double hooks h, and brackets i, constructed, arranged, and operating with hinge clasp C, and ladder B, in the manner and for the purpose specified.

**67,236.**—CHARLES W. WAILEY, New Orleans, La.—*Dies for Forming Cotton Ties.*—July 30, 1867.—The bar of iron being placed over the matrix, the die striking thereon forms the buckle simultaneously with the cutting of the bar by the cutter. The bent arm engaged with the punch rod projects the buckle from the matrix.

*Claim.*—First, the die A A' B, and cutter D, in combination with the separating bar E, when constructed, arranged, and operating in the manner described, for the purpose of stamping or cutting out buckles to be used as cotton ties, from suitable plates or bars of iron, as set forth.

Second, the combination of the said die and its appendages with the matrix G, when the latter is constructed as described, and is provided with the movable bar J, or its equivalent, as described, for the purpose set forth.

Third, the combination of the said die and its appendages, matrix G, and movable bar J, with the bent arm F, when these parts are constructed and arranged relatively to each other substantially as described for the purpose set forth.

**67,237.**—THEOS WEAVER, Harrisburg, Pa.—*Whip Socket.*—July 30, 1867.—Improvement on his patent, August 13, 1866. Explained by the claims and illustration.

*Claim.*—First, a whip socket, in sections, flared or widened at a place suitable for the insertion of a locking device or line holder, substantially as herein set forth.

Second, a whip socket, provided with a set of single clutches, rigidly attached or removable, to grip the rod in a dash, in combination with a brace, substantially as herein set forth.

Third, the mode of preventing the revolution of a socket at its bearings on a rod, by means of the indented arcs 1 2 3 4 in Figs. 1 and 5, for the purpose specified.

Fourth, the locking fastening, as shown in Figs. 3 and 8, and otherwise described.

Fifth, the combination of the bands B' K' B' K' with a socket, for the purpose specified.

Sixth, the slides o' o', the holes 9 9 9 9, Fig. 3, in combination with the brace, Fig. 5, and the screw E, for the purpose herein specified.

Seventh, the combination of a tumbler or tumblers with a locking thimble provided with a flange at the top, the teeth 1 2 3 4, key hole g, key guard 13, the toothed lock shield 1 2 3 4, the ledges R V A, handle H, stop S', when made to operate by a key, as herein set forth.

Eighth, the combination of the subjects of the seventh claim with a circle of notches, as shown in Fig. 4, or with two circles, as shown at 12, Fig. 3, for the purpose herein set forth.

Ninth, the combination of ring A with a hook H', for the purpose specified.

Tenth, clothing or covering the parts of a lock that come in contact with a whip stock in a socket with a suitable material, substantially in the manner as and for the purpose herein shown and described.

Eleventh, inserting a key in a vertical or upright position in a whip lock, as shown in Fig. 1.

**67,238.**—P. W. WEBSTER and WM. H. PRESCOTT, Concord, N. H.—*Bed Bottom.*—July 30, 1867.—The side pieces have transverse bars, through which the slats slide. The frame rests on transverse wooden springs. Transverse wires are interwoven with the slats.

*Claim.*—The side pieces a, end pieces b and d,



slats *e*, and wires *f*, when combined to form a reversible spring bed, substantially as described.

**67,239.**—CARL WEIDLING, New York, N. Y., assignor to himself, ALEXANDER LIEDER and CHAS. KINKEL.—*Fire Escape*.—July 30, 1867.—The two beams are framed cross-ways together and support a turn table. The vertical post of the frame has a windlass and tackle which raise the ladder, the rope passing over a grooved roller at the junction of the post and inclined beam. The windlass and tackle at the foot of the ladder extend the sections, and swing braces behind and at each side support it in position.

*Claim.*—First, the upper frame F G H with its windlass I and chains or ropes K K, all combined with the ladder, as and for the purpose set forth.

Second, in combination with the upper frame, constructed and arranged as described, the lower frame A B C D with its turn table, as and for the purpose set forth.

**67,240.**—EDWARD WEISSENBORN, Hudson City, N. J.—*Machine for Polishing Wood*.—July 30, 1867.—The pencils are placed on an endless apron, which runs over a table. The ends of the pencils enter guide notches in the blocks of an inner endless apron, running at a different speed to the former apron, so as to cause rotation in the pencils as they are carried forward beneath the polishing blocks, which are reciprocated transversely as to the machine and lengthwise of the pencils. The blocks are coated with sand paper of various degrees of fineness and depressed by springs.

*Claim.*—First, the combination of two endless aprons H E and the grooved guide blocks *e'* with the supporting table between the aprons, for receiving, holding, and carrying the pencils under the polishing blocks and discharging them therefrom, arranged, constructed, and operating in the manner and for the purposes described.

Second, the combination of the aprons, table, and guide blocks aforesaid with the polishing blocks J J, constructed and arranged and operating in the manner and for the purposes described.

Third, the combination of the bent vertical pressure springs M with the polishing blocks J, the springs being provided with slots and buttons, for adjustment as described, constructed, arranged, and operating in the manner and for the purpose described.

Fourth, the combination of the polishing blocks J with the side pieces or supports *j* to guide the polishing blocks and support them at the desired point, so that the pencils may pass under them with facility as they are carried along by the aprons and at the same time receive the required pressure for polishing.

**67,241.**—N. F. WESTON, Boston, Mass.—*Construction of Vessels*.—July 30, 1867.—The boxes are on the outer sides of the bottom and may be filled with air or water through suitable openings, or the boxes may consist of chambers turned at the sides of the hold.

*Claim.*—The application to the outer surface of the hull of a navigable vessel of closed boxes or tanks, so constructed and arranged as to answer the purpose of either buoys or ballast, as well as being productive of other advantages, substantially as hereinbefore shown and described.

Also, in combination with the outer tanks A' A', the inner compartment *a' a'*, essentially in manner and for the purpose as specified.

**67,242.**—JAMES A. WHITNEY, Maryland, N. Y.—*Magazine Fire-arm*.—July 30, 1867; antedated July 18, 1867.—When the gun is charged the chamber in the lower part of the breech block is in position to receive a cartridge. In charging, the upper end of the operating lever is swung upward and forward, first raising the breech block and then, while sustaining the same, forcing the cartridge into the barrel. On return, the upper end of this lever engages the rear spur of the breech block and depresses the fore end of the latter to position for firing.

*Claim.*—First, the breech block E, constructed with a carrying chamber *g*, arranged below and back of the solid recoil face *f* thereof, in combination with the barrel and a suitable cartridge magazine, substantially as and for the purpose specified.

Second, so combining the arm *e* of the operating

lever with the breech block E, that the forward movement of the said arm shall not only elevate the breech block to bring the recoil face thereof away from and the carrying chamber in line with the bore of the barrel, but shall also operate to force the cartridge from such chamber into the said bore, substantially as herein set forth.

Third, the combination of the downwardly extending spur D of the breech block of the arm *e* of the operating lever, substantially as herein set forth, for the purpose specified.

Fourth, a slot, formed in the breech block and extending through or into the carrying chamber *g* thereof, of such shape and so arranged in relation with the arm *e* of the operating lever, that the said arm by its forward movement shall simultaneously hold the breech block in a stationary position and force the cartridge from the carrying chamber into the barrel, substantially as herein set forth.

**67,243.**—YOUNG F. WRIGHT, Green Hill, Ga.—*Cotton Press*.—July 30, 1867.—The sweep and platen, with the screw, are sustained on a pivoted frame swinging around on a segmental guide bar when the press is being charged.

*Claim.*—In combination with the arch, nut, and sweeps, operating in connection with the platen screw, as herein represented, the hinging or pivoting of the arch, so that it and its several appliances may be run or swung around upon a curved horizontal, or nearly so, way, to clear the top of the press box, to allow it to be readily filled, substantially as described.

**67,244.**—JOHN ZIMMERMAN, Royalton Centre, N. Y.—*Lamp for Destroying Insects*.—July 30, 1867.—The oil chamber has an outer case, and between the two the air circulates. The wicks have perforated flaring nozzles to protect them from wind. The lamp is suspended on a pole.

*Claim.*—The lamp constructed, as described, with a socket to secure it on the top of a pole, double walls with air orifices, and whose wick tubes are provided with perforated flaring nozzles, as described and represented.

**67,245.**—W. H. ALCORN, New York, N. Y.—*Slate-pencil Sharpener and Holder*.—July 30, 1867.—The pencil is held by the spring in the tubular holder attached to the slate, and is sharpened on the rough surface of its concave faces.

*Claim.*—First, providing a slate frame with a combined slate-pencil holder and sharpener, for the purpose set forth.

Second, the semitubular plate B, when provided with one or more lugs *b*, or their equivalents, and with a spring C, and with a corrugated surface *c*, all as set forth.

**67,246.**—J. E. ALGER, New York, N. Y.—*Oyster Opener*.—July 30, 1867.—The oyster is placed in the fixed jaw and the lips of the shell broken; it is then placed with the back of the shell in a recess of the standard and opened by the knife projected against it by the crank pinion that gears into the rack shaft.

*Claim.*—First, an apparatus for opening oysters, the arrangement of a fixed jaw G, substantially as and for the purpose herein set forth.

Second, the combination of a reciprocating knife or opener H, with a support having grooves or recesses *c* for adjustment and retention of the oyster to and against the action of the knife, substantially as herein set forth.

**67,247.**—JOHN AMES, Lansinburgh, N. Y., and N. H. NORTON, New York, N. Y.—*Brush Rack*.—July 30, 1867.—Explained by the claim and illustration.

*Claim.*—A rack for exhibiting paint, varnish, and other similar brushes, as specimens, consisting of a shallow box A provided with one or more cleats B or B', arranged substantially as herein shown and described.

**67,248.**—CHANCY L. ANDREWS, Conneaut, Ohio.—*Washing Machine*.—July 30, 1867.—The oscillating ribbed roller reciprocates over the segmental grate; the roller frame has radial accommodation by side grooves.

*Claim.*—The combination and arrangement of the



box A, frame B, with parallel grooves B' in the side pieces, pins C, corrugated roller D, handle E and bars F, substantially as set forth.

**67,249.**—H. A. BARNARD, Moline, Ill.—*Machine for Packing Flour.*—July 30, 1867.—The barrel is placed on a platform suspended by a steelyard and by a weighted cord passing over a pulley. The steelyard takes under and clamps another pulley attached to the former one, driving it against a block above. On sufficient deposit of flour the steelyard is depressed, the roller freed from the upper brake, and the barrel of flour descends.

*Claim.*—The two pulleys G and E, and the compound or double brake K M, in combination with the shaft F, friction wheel J, weight L, and the barrel support C, substantially as herein shown and described and for the purpose set forth.

**67,250.**—JOSEPH H. BEAL, EDWARD J. SAWYER, and GLANVILLE S. WEBSTER, Boston, Mass.—*Paper Corsets.*—July 30, 1867.—The paper pulp being hardened on the mold, retains its shape when dry, after which it is perforated.

*Claim.*—As an improved article of manufacture, a corset made from paper or paper pulp, or their treatment by a combination with other materials, substantially as explained.

**67,251.**—JAMES F. BECKWITH, Albion, N. Y.—*Stove Pipe Drum.*—July 30, 1867.—The drum has three longitudinal segmental flues around its axial air passage, and these flues are connected alternately at bottom and top, forcing the caloric current to traverse all of them except when a damper is moved to give direct exit. Radial pipes connect the top and bottom of the axial air pipe with the open air.

*Claim.*—The cylinder A provided with vertical pipe B, beveled flanges C C, air tubes D D D, damper plate E, and cap I, all being constructed, arranged, and used in the manner and for the purposes set forth.

**67,252.**—C. BILLUPS, Norfolk, Va.—*Corn and Cotton Scraper.*—July 30, 1867.—The landside has a vertical coulter secured thereto, is attached to the handle behind, and is bolted to the longitudinal rabbet on the projection of the standard. The mold board is adjusted by screw bolts in elongated slots.

*Claim.*—First, the standard C.

Second, the slots *c c'*, when used for the purpose specified.

Third, the mold board E, having two horizontal slots *e e'*, for the purpose specified.

Fourth, the detachable landside and the method of attaching it, as described.

Fifth, the center board or pivot cutter C, working in connection with the landside, substantially as and for the purposes described.

Sixth, the slot *d*, through which the center board or pivot cutter passes, and the mode of securing and fastening the same.

Seventh, claims fifth and sixth as applied to all plows.

**67,253.**—AMOS S. BLAKE, Waterbury, Conn.—*Machine for Lining Percussion Caps.*—July 30, 1867.—The caps are held in plates reciprocated beneath the dies, and the punch moves down through the die, punching the strip of tinfoil and inserting it within the cap.

*Claim.*—First, a slide for carrying the caps to the die and punch for being acted upon by the latter, when such slide is arranged to have an intermittent forward and backward motion, as the punch moves up and down through the die, substantially as and for the purpose described.

Second, in combination with the above a plate or plates suitably constructed to receive the caps, and so arranged and operated with regard to the slide for carrying them to the punch and die as to feed and deliver the caps to the slide, substantially as described.

**67,254.**—WILLIAM BLIESNER, St. Louis, Mo.—*Meat Cutting Machine.*—July 30, 1867.—The hand crank connected by gearing with the rack propels the piston through the box to the eccentrically operated knives which cut the meat. When filling, the knives are removed and a funnel attached in front.

*Claim.*—First, the combination of the feeding apparatus A, with the meat-cutting machine, all arranged as specified.

Second, the continual motion of the knives in three different directions, as and for the purpose described.

Third, the simultaneous motion of the knives *b<sup>2</sup> b<sup>3</sup>*, by means of the lever *b\** and the eccentric wheel *c<sup>1</sup>*, as and for the purpose described.

Fourth, the arrangement of the shaft *c<sup>13</sup>* with the cog wheel *c<sup>11</sup>* and the rack *c<sup>12</sup>*, which permits the drawing back of the piston without affecting the remainder of the machinery.

**67,255.**—C. T. BOARDMAN, Pawtucket, R. I.—*Steam Generator.*—July 30, 1867.—The vertical and horizontal tubes are surmounted by steam chambers and are connected with water-feed pipes below.

*Claim.*—The arrangement, substantially as herein shown and described, of the single and double sections G G', constructed of horizontal and vertical tubes with steam spaces or chambers, and set for passage of the draft in reverse and return directions relatively to them, as herein set forth.

**67,256.**—HENRY BODEN, Olney, Ill.—*Grain Dryer.*—July 30, 1867.—The grain is placed on the upper steam-heated disk and conveyed to its periphery, from whence it drops on the disk beneath, from whose central part it falls to another beneath, and so passing alternately outward and inward but always downward. The three upper disks are steam-heated. The grain is exposed to an air blast.

*Claim.*—The arrangement and construction of the steam chambers C C C, with their receiving and discharge steam pipes E E on the outside, and draft flues G on each side of the coolers D D below, when arranged, constructed, combined, and operating as herein described and for the purposes set forth.

**67,257.**—JOHN C. BONNELL, Fort Madison, Iowa.—*Suspension Turn Table.*—July 30, 1867.—The table is raised by the screw-gear wheel and the wheel then engaged to the frame, so that a continued rotation of its operative screw will rotate the table.

*Claim.*—The arrangement of the wheel H, shaft J, bolt G, and dog I, in combination with the swinging frame, in the manner substantially as and for the purpose specified.

**67,258.**—JOHN C. BONNELL, Fort Madison, Iowa.—*Sash Support and Fastener.*—July 30, 1867.—The catch is pivoted in the metallic case by one of the screws that connect the case to the sash. The beak engages in a recess in the casing to hold the window shut, and when raised the disk binds against the casing.

*Claim.*—The combined dog and cam D having a beak upon its outer end and a shoulder on its top whereby the beak may catch into the opening in the sash and check the window or support the same by its cam in the desired position, when arranged within a metal box *c* formed of one piece of metal and held in position as well as being pivoted by the screws that connect the box to the frame as specified.

**67,259.**—FELIX BENONI BOUSCATIÉ, Paris, France.—*Watch.*—July 30, 1867.—The pinion of the scape wheel is above, instead of below as usual. The balance wheel is in a recess of the case, and is visible beneath a glass set in the same. The regulator pins pass through the balance wheel bridge and the mounting plate to the hair spring. The escapement of the "scape wheel" is allowed to advance or recede more or less as required for regulating the watch.

*Claim.*—First, the combination with the bridge of the escapement of the scape wheel and its pinion under the arrangement and for operation as herein set forth.

Second, the construction and arrangement of the disk for supporting the balance and escapement substantially as herein described.

Third, the combination with the supporting disk of the bridge and balance and escapement pivoted on the same as shown and described.

Fourth, the combination and arrangement of the regulator with the balance wheel and its hair spring substantially as and for the purposes herei set forth.

Fifth, the arrangement of the bridge for carrying



the escapement substantially as and for the purposes described.

**67,260.**—JOHN J. BRADNER, Pine Creek, N. Y.—*Fanning Mill.*—July 30, 1867.—A serrated rack is attached to the upper end of the conductor and is actuated by a spur on the under side of the shoe which has a quick lateral motion.

*Claim.*—The toothed rack F and the stud F, or their respective equivalents attached to the conductor and screen of a fanning mill substantially as and for the purpose described.

**67,261.**—J. D. BURDICK, New Haven, Conn.—*Straw Cutter.*—July 30, 1867.—The gearing connecting the hand crank with the feed rollers is regulated to the length of cut required. The fixed curved cutter is secured to its bed piece by bolts playing in elongated slots and is adjusted by keys passing vertically through it. The arms of the rotating cutter are secured by a wedge which admits of the slipping of the arms, if any serious obstruction be met by the cutter.

*Claim.*—First, the shifting spur gear G provided with a concentric pinion H in connection with the pinions *d d* on the feed roll shafts and the intermediate pinions K L f, all to operate so as to vary the speed of the feed rollers according to the length of cut required, substantially as shown and described.

Second, the intermediate pinions K L f placed on fixed studs or axes in combination with the pinions *d d* on the feed roller shafts arranged substantially as and for the purpose specified.

Third, securing the fixed cutter or leger blade M to its bed-piece by means of bolts *h h*, the heads of which are fitted in oblong slots *j j* in the cutter or plate substantially as and for the purpose set forth.

Fourth, the adjusting keys O O passing vertically or nearly so through the fixed cutter or leger blade and arranged in relation with the frame or head D of the feed rollers substantially as and for the purpose specified.

Fifth, constructing the fixed cutter or leger blade M of curved form in its transverse section, and having the inner edge of the same slotted as shown for the purpose set forth.

Sixth, securing the arms Q Q of the cutter P to the shaft J in the manner shown or in an equivalent way to admit of the slipping of the arms on the shaft or the turning of the latter within the former in case the cutter meets with any material obstruction in the prosecution of its work.

**67,262.**—D. H. BUZZEE, East Hampton, Mass.—*Machine for Laying Rubber Sheets to be Cut into Threads.*—July 30, 1867.—The brakes are actuated simultaneously at both ends of the feeding cylinder so as to adjust the tension on the rubber and secure its being evenly and tightly rolled around the main cylinder. The rubber is secured by a split rod in a recess of the feed cylinder.

*Claim.*—First, the combination in a machine for laying rubber sheets of the cylinders B and C and tension device or break arranged to act simultaneously upon both ends of the feeding cylinder, the whole being constructed for operation together substantially as specified.

Second, the combination with the feeding cylinder C of the split clamping rod D arranged to occupy a recess in said cylinder in direction of its length, and gearing with the same essentially as herein set forth.

**67,263.**—AUGUSTUS C. CAREY, Malden, Mass., assignor to himself and HUGH K. MOORE, same place.—*Knitting Machine.*—July 30, 1867.—Rotating and vibrating, jacquard-pattern cylinders are used in connection with sliding needles on a straight frame to knit irregular tubular work. Two cylinders with their appurtenances operate in combination. Wires are interposed between the cylinders and needles by which the latter are operated. Projections on the wires operate the needles, so that they are moved forward by the bars of the jacquard to hold the loops, but not to knit, and thus avoid making holes. The pattern wheels and jacquards operate the pawls that actuate the jacquard cylinders. The yarn tension is adjustable.

*Claim.*—First, the combination of revolving and vibrating jacquard pattern cylinders with sliding

needles on a straight frame, for the purpose of knitting irregular tubular work, substantially as described.

Second, combining and arranging in connection with two rows of needles, two jacquard cylinders that are at times both thrown forward together, at other times thrown forward alternately, first one and then the other, and at times cease to revolve, as the style, shape or pattern of the article that is being knit may require, substantially as described.

Third, in combination with vibrating jacquard cylinders and with needles in straight rows, the wires interposed between the jacquard and the needles by which the needles are operated from the jacquard, substantially as and for the purpose described.

Fourth, the use of nibs or projections on the wires that are interposed between the jacquard and the needles, and remote from the ends of said wires, so that the needles in the line of such nibbed wires may be moved forward far enough by the jacquard to catch and hold the yarn, but not to knit, and thus prevent the making of holes in the knit work substantially as described.

Fifth, the combined use of a pattern wheel having a toe and heel segment thereon, and the jacquards for operating the pawls, by which the jacquards are turned on their axes substantially in the manner and for the purposes described.

Sixth, a yarn tension, composed of the arm 8, post 7, turning arm 9, guides 12 and suspended weight or ring 13, arranged to operate in the manner and for the purpose substantially as herein described.

**67,264.**—AUGUSTUS C. CAREY, Malden, Mass., assignor to himself and HUGH K. MOORE, same place.—*Machine Knitted Stocking.*—July 30, 1867.—Improvement on his patent April 24, 1866.—Explained by the claim.

*Claim.*—As a new article of manufacture a machine-made knitted stocking, the toe of which is commenced in the center of the two rows of straight needles, and the heel of which is knit upon one of the two straight rows of needles of the machine, while the portions are the product of both rows, by which means a heel is closely knit, without holes or openings, and of better shape and form than heretofore knit by machinery, and bearing a greater similarity with regard to the toe portion to hand-knit stockings, substantially as herein described.

**67,265.**—S. HAMILTON CAUGHEY, Baltimore, Md.—*Deflector for Hot-air Registers.*—July 30, 1867.—The evaporator contains water, and is attached to the grating or register opening, deflecting the air into the apartment.

*Claim.*—The box A with its perforated top doors E d and G and water tank, arranged substantially as described and represented.

**67,266.**—C. G. CHALFANT, Unionville, Pa.—*Churn.*—July 30, 1867.—Rectangular breakers, secured to the inner surface of the cylinder, arrest the cream as the cylinder revolves on its horizontal axis.

*Claim.*—The right angular buckets E, secured to the inner circumference of the revolving cylinder churn c in the direction of its length, substantially as described for the purpose specified.

**67,267.**—VICTOR CHARLET, Hoboken, N. J.—*Button.*—July 30, 1867.—The dovetail locking bar fits slides in a corresponding groove in the shank of the button.

*Claim.*—The combination of a button or stud A, with a ground or slotted shank B, and sliding spring plate D, all made and operating substantially as and for the purpose herein shown and described.

**67,268.**—ERASMUS CHRISTIANSON, St. Joseph, Mo.—*Hemp Brake.*—July 30, 1867.—The stalks are broken between the teeth of the oscillating segment and those of the reciprocating bed. The proximity of the serrated portions is regulated by set screws.

*Claim.*—A hemp brake having frame A, platform B, cog wheels C, circle H, set screws L L, cog wheels M and lever N, constructed, combined, and operating substantially as specified.

**67,269.**—F. J. COFFIN, Newburyport, Mass.—*Slide for Rules, Scales, and Tables.*—July 30, 1867.—Explained by the claim and illustration.



*Claim.*—The slide A, or its equivalent, in combination with a rule, scale of tablet, the said slide containing one set of dimensions or factors to find out the contents or product in connection with another set of dimensions or factors, marked on the rule, scale or tablet, substantially as shown for the purposes herein specified.

**67,270.**—ISRAEL A. COONS, Middletown, Ohio.—*Clothes Dryer.*—July 30, 1867.—The rack frames are jointed to the hinged standards, by which they are supported in a horizontal position. The whole may be folded into small compass.

*Claim.*—First, the adjustable folding frame A' B', connected with the stand on uprights A A, by means of the links e e or slots M, when constructed, arranged, and operating in the manner and for the purpose described.

Second, the fastenings represented in Fig. 4, in combination with nprights A A, arms B B, or their equivalents, folding frame A' B', when the several parts and arranged, combined, and operated together, snbstantially as and for the purpose described.

**67,271.**—LE ROY COVILLE and WILLIAM KEELER, Oxford, N. Y.—*Washing Machine.*—July 30, 1867.—The perforated horizontal frame within the suds-box has a rectangularly ribbed roller reciprocating upon it, the said roller being depressed by springs.

*Claim.*—The reciprocating frame E and roller D, in combination with the perforated or other wash-board C, springs J, and rails f, all made and operating snbstantially as herein shown and described.

**67,272.**—H. J. COX and WALLACE HILL, Long Eddy, N. Y.—*Applying Window Shades to Windows.*—July 30, 1867.—The spiral spring keeps the roller elevated; the shade is wound upon it, and raised by pulling the cord that is wound around the roller. The shade is retained at any point by winding the cord round a knob in the casing. The blind moves laterally by moving the grooved bar.

*Claim.*—The spring D, pulleys d d, and cords f f, connected with the shade roller E, in combination with the cord G, and ring j, and tack or hook k, or their equivalents, for holding or securing the bottom of the shade when necessary, all arranged substantially as and for the purpose set forth.

**67,273.**—JOHN C. COX, Greenville, N. C.—*Horse Power.*—July 30, 1867.—The cord, by which motion is communicated from the reel, lies between the horns on the cross-pieces at the ends of the radial arms, and moves around guide rollers to the geared wheels. These cross-pieces are connected by links and an adjusting swivel. The cord passes over an idler pulley having journal bearing in a sliding frame connected by a cord and ratchet wheel to a weighted lever. The cord is pressed down upon the geared wheel by a roller upon a weighted, oscillating frame.

*Claim.*—First, the cross-pieces E, bevelled at their ends and provided at both ends with horns G and H, interlocking each within the cross-pieces, in the manner described as and for the purpose specified.

Second, the combination of the pulleys P and R, gear wheel T, and pulley V, with each other and with the frame O, and rope F, substantially as described and for the purposes set forth.

Third, the combination of the weighted lever E', ratchet wheel D', shaft C', pulley B', and cord A', with each other, with the frame O, and with the sliding frame S, substantially as described and for the purpose set forth.

Fourth, the combination of the pulley G', and weighted frame H, with the frame O, the pulley R, and rope F, substantially as described and for the purpose set forth.

**67,274.**—A. B. DAVIS, Philadelphia, Pa.—*Scale Beam.*—July 30, 1867.—The beam has several indexed slides which act as weights. Stop nuts on screw rods act to check them at the desired adjustment.

*Claim.*—The combination with each bar or weight of a stop rendered adjustable in the manner described or any equivalent to the same.

**67,275.**—JOHN C. DELAVIGNE, New Orleans, La.—*Saw Mill.*—July 30, 1867.—The walking beam of the reciprocating saw is connected with springs which are

depressed by the ends of the said beam and assist by their recoil in raising the same.

*Claim.*—First, the pivoted walking-beam frame F, having at one end the saw H, its lower cross bar b, connected to one end of pitman E, whose outer end is pivoted concentrically to disk D, on shaft a, when all are constructed, arranged, and operating as herein set forth for the purpose specified.

Second, the spring boards K K, pivoted by link bars e e to each end of the walking-beam frame F, as herein set forth for the purpose specified.

**67,276.**—WARREN B. DOUDES, Canton, Ohio.—*Lighting Cigars.*—July 30, 1867.—A piece of match is imbedded in the end of the cigar, the friction composition protruding. The outer end of the cigar is dipped in a composition of gunpowder and flour, which is kindled by the flame of the match.

*Claim.*—As a new article of manufacture, a cigar bearing the composition substantially as described, and provided with the match, in the manner and for the purposes specified.

**67,277.**—CHARLES W. DUNCAN, Baltimore, Md., assignor to himself and H. S. SARONI, same place.—*Vapor Burner for Heating.*—July 30, 1867; antedated July 26, 1867.—The fluid reservoir is connected by pipes with a retort; the flow of liquid is regulated by a valve.

*Claim.*—First, an apparatus for generating heat in vapor stoves as above described, regulating the supply of fluid to the retort or heating chamber, in the manner and by the means hereinbefore specified, that is to say, by locating the valve which regulates the flow of the oil or other fluid at or near the point where the fluid enters the said retort, substantially as and for the purposes herein set forth.

Second, in combination with the retort or heating chamber of a vapor stove, and valve seat located at or near the point of junction of said retort with the pipe which connects it with the fluid reservoir as specified, the valve constructed and arranged so as to operate on the axis of said pipe, substantially as and for the purposes herein shown and described.

**67,278.**—HORACE EVERETT, Philadelphia, Pa.—*Paint Can.*—July 30, 1867.—A metallic ring is fastened within the inner edge of the can, and has a flange around which the edge of the cover is bent.

*Claim.*—A metal ing B and its flange b, combined with the body and cover of a paint can, substantially as set forth for the purpose specified.

**67,279.**—LEONARD FLECKENSTINE, Manor township, Pa., assignor to himself and PETER F. BINKLEY, same place.—*Fruit Gatherer.*—July 30, 1867.—The leather sack has hinged fingers that are operated by the hinged jaws to grasp the fruit. The jaws are operated by cords.

*Claim.*—First, the arrangement of the hinged finger supports A, with their pin or pivot a, in combination with the hinged jaws E, for operating them in the manner and for the purpose described.

Second, in combination with the jaws E, the ratchet wheel c, click D, spring I, between the supporting lugs H, arranged in the manner and for the purpose set forth.

Third, the united double levers K, for operating the jaws E by means of cords k, in the manner specified.

Fourth, the arrangement of the cheek pieces L, hinged above to the jaws E, and attached to the pole, in the manner and for the purpose set forth.

Fifth, the leather cap and sack, revolving on its pivots a, and provided with fixed and rigid fingers F on their respective supports A B, arranged and operated in the manner specified.

**67,280.**—WILLIAM FOSTER, Logansport, Ind.—*Railway Chair.*—July 30, 1867.—One side of the rail ends is held by the curved edge of the chair, and the other side by a block bolted to the chair, a plano-concave gib and a wedge driven between the blocks and gib.

*Claim.*—First, the wedge F and gib E, in combination with the chair D, supporting bar C, and rails A, substantially as herein set forth for the purpose specified.

Second, the plates C and bolts a, in combination with the supporting bar C, chair D, wedge F, gib E,



and rails A, substantially as herein set forth for the purpose specified.

**67,281.**—ALCANDER FOX, Poughkeepsie, N. Y.—*Filter*.—July 30, 1867.—The water passes down into the sponge pocket, and thence follows around the circuitous chamber charged with filtering material to the outlet.

*Claim.*—The combination of a series of labyrinthine filtering compartments, substantially as herein specified and described.

**67,282.**—LAWRENCE F. FRAZEE, South Amboy, N. J.—*Ship's Davit*.—July 30, 1867.—The oscillating frame has brace pieces which slide on way-bars of the frame and sill, by which the frame may be supported over the water or the deck.

*Claim.*—First, a four-sided frame M, hinged or pivoted at its lower edge to the vessel, substantially as and for the purpose set forth.

Second, the combination with the frame M of the sliding supports E and E, constructed, attached, and operated substantially as specified.

**67,283.**—CHARLES H. FROST, Peekskill, N. Y.—*Base Burning Stove*.—July 30, 1867.—The draft, when the fire is first lighted, passes through the grate bottom and upward through the fire space to the chimney. When fully lighted, the draft is reversed in the fire space, and ascends the outer vertical flues.

*Claim.*—So arranging the cylinder *a*, and the direct and indirect draft openings and passages that the said cylinder becomes an ascending channel for the escape of the products of combustion when the draft is direct, and a descending channel for the supply of air to the fire when the draft is indirect, substantially as set forth.

**67,284.**—A. J. FULLAM, Springfield, Vt.—*Drilling Apparatus*.—July 30, 1867.—The engine and drill are attached to the platform by a clamp and set screw. A flexible tube conveys steam from the boiler to the cylinder. A pitman attached to the crank of the fly wheel actuates the drill.

*Claim.*—The arrangement of the drill stand A, engine E, securely attached thereto, pitman E', fly wheel F, pinion *a*, drill B, and pipe J, substantially as described and for the purpose specified.

**67,285.**—WILLIAM FUZZARD, Chelsea, Mass.—*Row Lock*.—July 30, 1867.—The oar is pivoted in a row lock and engaged in an elongated curved slot in the semicircular bar. The row lock has a toothed segment that gears into a segment attached to the boat.

*Claim.*—The application of row blocks to a row boat in such a manner that the former will, during the operation of rowing, be moved automatically from the motion of the oars for the purpose of increasing the length of the sweep of the same, substantially as set forth.

**67,286.**—GEORGE R. GARDINER, Westerly, R. I., assignor to himself and B. W. Bentley, same place.—*Clamp for Paint Brushes*.—July 30, 1867.—The position of the encircling band around the brush is adjusted by means of the perforated plates and the spring catch pins.

*Claim.*—The combination of the band C', adjusted by means of the slide and pins with the spring fastener F, for vertical adjustment, substantially as described for the purpose specified.

**67,287.**—WILLIAM N. GATES, Manchester Center, N. Y., assignor to OSCAR J. WHITNEY, Hopewell, N. Y.—*Corn Harvester*.—July 30, 1867.—The machine cuts one row at a time; the cutter bar is worked by gearing and pitman from the driving wheel. The stalks are gathered by rotating fingers actuated by the spokes of the supporting wheel. The gavel is dropped by drawing out the discharging frame.

*Claim.*—The arrangement of the gavel discharger P, provided with teeth O, and resting upon the concentric frame *e* and the reel O, provided with the points *h*, gearing directly with the spokes of the supporting wheel when the said parts are combined in a corn harvester, in the manner and for the purposes specified.

**67,288.**—J. B. GAYLE, Portsmouth, Va.—*Lathe for Turning Eccentrics*.—July 30, 1867.—The eccentric is turned upon the shaft by a tool in a holding ring upon an eccentric guide.

*Claim.*—The combination of the adjustable eccentric support F, carriage E, ways H, and sliding tool stock I, arranged as described for the purpose specified.

**67,289.**—CHARLES GIBBON, Hicksford, Va.—*Cotton Cultivator*.—July 30, 1867.—The rotating axle connects by gearing with the rotating cutters which stir the ground about the plants. The lever raises the hinged frame to which the plows are attached.

*Claim.*—First, the combination of the front and rear plows H H I I with the hinged main frame A and lever K, substantially as and for the purpose specified.

Second, the rotary cutters G G, in combination with the scraper plows H H and the rear plows I I, all arranged substantially in the manner as and for the purpose set forth.

Third, the pivoted bar M on the frame A, in combination with the rotary cutter shaft F and the lever K, all arranged substantially as and for the purpose specified.

**67,290.**—WILLIAM GILFILLAN, Syracuse, N. Y., assignor to himself and M. L. VAN HORN, New York, N. Y.—*Door Spring*.—July 30, 1867.—As the door opens the eccentric swings around in the opposite direction, winding up the spring whose reaction closes the door. The force is greatest when the door is closed.

*Claim.*—The hollow drum or casing H, with its eccentric arm P and coiled spring K, when connected with the door frame through a cord R, or its equivalent, and combined and connected together, substantially as and for the purpose described.

**67,291.**—C. B. GILL, Rochester, N. Y.—*Piston for Double-acting Pumps*.—July 30, 1867.—The double-headed piston has a central space in which plays an annular valve plate, which closes the openings in the upper and lower plate of the piston alternately.

*Claim.*—The piston A, having the passage *g* and the webs *b b*, arranged as described and operating in the manner herein set forth.

**67,292.**—JOHN H. GOULD, Newburyport, Mass.—*Bottle Stopper*.—July 30, 1867.—The wire passes through the elastic ball and, descending on each side of the neck, is coiled beneath the flange so as by its elasticity to hold the stopper in position.

*Claim.*—A stopper for bottles consisting of a rubber or other suitable ball held and attached to the bottle neck by a coiled spring, substantially as and for the purpose described.

**67,293.**—HENRY GRANSDEN, Dubuque, Iowa.—*Mangle*.—July 30, 1867.—The upper roller is held towards the two lower ones by spring journal-hooks, and is rotated by a handle on the fly-wheel.

*Claim.*—The rollers D E F, the hook G, the spring H, the aprons C, the fly-wheel B, and the braces J, arranged substantially as herein shown and described, in combination with the frame A, for the purposes set forth.

**67,294.**—WELLINGTON GREEN, Kinzua, Pa.—*Washing Machine*.—July 30, 1867.—The oscillating box is pivoted on the standards and has transverse slats across the bottom with scalloped and angular slotted pieces on the ends inside. The balance-weight bar actuates the machine.

*Claim.*—First, the box C, constructed with a close-fitting cover E<sup>1</sup> E<sup>2</sup>, with slats D upon its bottom, with scalloped pieces F upon one or both ends and pivoted to stationary supports B, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the balance weight-bar I with the oscillating box C, substantially as herein shown and described and for the purpose set forth.

**67,295.**—A. M. GRISWOLD, Momence, Ill.—*Cultivator*.—July 30, 1867.—The rods attaching the plows to the cross-bars are adjustable to regulate the elevation of the plows; braces secure them to the longitudinal beams. The lever attached to the cross-bar,



to which the cams are secured, connects by rods with the plows to raise them out of the ground.

*Claim.*—First, the adjustable rods *o o* and the adjustable brace rods *j j*, for the purposes specified.

Second, the joints *i i*, when combined with the rods *o o* and *j j* and plow-bearing beams *E E*, substantially as and for the purposes set forth.

Third, the cams *m m*, when combined with the braces *n n*, the rods *s s*, and bar *r*, and operating in the manner and for the purposes described.

**67,296.**—EDWARD W. GURNEE, Haverstraw, N. J.—*Fruit Picker.*—July 30, 1867.—The basket has on its upper edge two frames between which the apple is grasped when the cord is pulled; the fruit, being detached, falls into the basket and, by a conveyer, to the ground.

*Claim.*—The basket *A*, provided with the projecting splints *e e* at one side and the projecting elastic splints *b b* at the opposite side, the splints—each pair—being connected at their ends by the strips *d* and having the cores *C D* applied, and all arranged substantially as and for the purpose set forth.

Also, the canvas or other material *d\** attached to the splints *b b c e*, in connection with the projecting splints *c' c'*, substantially as and for the purpose specified.

**67,297.**—JOSHUA F. HAMMOND, Providence, R. I.—*Floor Clamp.*—July 30, 1867.—The clamp being spiked in position, the lower limb of the pivoted lever projects the forward truck against the board.

*Claim.*—In combination with the bed piece *A*, the lever *C*, the pawl *D*, the steel *E*, and sliding piece *B*, provided with the blocks *F* and *G*, either with or without the truck *i*, substantially as described and for the purposes set forth.

**67,298.**—JOHN HASKINS, Roxbury, Mass.—*Rubber Fabric.*—July 30, 1867.—To be used as an outer cover or coating for fabrics or garments.

*Claim.*—The within-described article of perforated rubber, as an article of manufacture, the same being used as and for the purpose set forth.

**67,299.**—J. S. HAWLEY, Virginia City, Nevada.—*Tobacco Pipe.*—July 30, 1867.—The cob lining is to absorb the nicotine.

*Claim.*—The lining *C* of the tobacco pipe, when cut from a corn cob and inserted in the bowl *A*, as herein set forth, for the purpose specified.

**67,300.**—WILLIAM F. HAYDEN, Brookfield, Mass.—*Heating Top Plates of Wax-thread Sewing Machines.*—July 30, 1867.—The plate being fitted to the post of the sewing machine in the usual manner, water is turned into the funnel until the chambers beneath are filled. A lamp is then placed underneath the top plate to heat the chambers, which are separated by a perforated partition. The vicinity of the wax-thread is thus kept warm.

*Claim.*—First, the combination with the top plate of a wax-thread sewing machine of a chimney *G*, whereby the lamp for heating the wax can be placed under or below the top plate of the machine, substantially as and for the purposes set forth.

Second, the combination with the top plate *B* of the chamber *E*, substantially as set forth.

Third, the combination, with the top part *B*, of the chambers *E* and *H*, chimney *G*, and pipes *I* and *K*, substantially as and for the purposes set forth.

Fourth, the combination, with the front part of the plate *B*, of the gage *O* and thread-knife support *p*, substantially as set forth.

Fifth, supporting the tension wheel on the stand *L*, the said wheel being arranged with the pipes *I K*, as shown and described.

**67,301.**—H. N. HILL, Pontiac, Mich.—*Corn Husker.*—July 30, 1867.—The ear is placed between the knives and the upper end is brought down by the treadle, cutting the stalk at the butt of the ear and releasing the husks.

*Claim.*—First, the knives *F* and *G* in combination with each other and the spring treadle *J*, substantially as described for the purposes set forth.

Second, the slide *C*, and the spring treadle *J*, arranged and operating substantially as described in

combination with the knives *F* and *G*, as and for the purposes herein set forth.

**67,302.**—G. H. HOAGLAND, Port Jervis, N. Y.—*Steam Engine Slide Valve.*—July 30, 1867.—The V-formed valve reciprocates in a suitable open-ended case within the steam chest. The ports take steam by the open ends of the case, but have outlet openings, covered by flap valves through the sides of the case to allow passage of steam when pressure is greater in the cylinder than the steam chest.

*Claim.*—The combination with the valve box *D*, arranged within the steam chest, of the valves *N<sup>1</sup>* *N<sup>2</sup>*, controlling openings in communication with the steam ports, essentially as and for the purpose herein set forth.

**67,303.**—ALEXANDER HONRATH, New York, N. Y.—*Cork Receptacle for Bottles.*—July 30, 1867.—A pocket in the side of the bottle to hold the cork when removed from the neck.

*Claim.*—The forming or manufacturing of bottles or other receptacles of glass, earthenware, or other material designed for holding liquids and provided with cork stoppers with a cavity *b*, in order to hold a spare cork, substantially as shown and described.

**67,304.**—JOSEPH HORNER, New Brunswick, N. J.—*Bedstead.*—July 30, 1867.—The sacking bottom is stretched by a windlass having its bearings in the side rails of the bedstead. The dog engaging in the ratchet wheel prevents a retrograde movement. Hooks attached to the side rails engage in and prevent the lateral contraction of the sacking.

*Claim.*—Attaching the front and rear ends of the sacking bottom *E* to cylinders *B B'*, which are fitted in bearings *a*, attached to the side rails *b* of the bedstead at the head and foot portions thereof in combination with the grooved wheel *f*, and forked plate *C*, ratchets *e*, and pawls *d*, all arranged and applied substantially as shown and described.

Also, the bent rods or hooks *F*, attached to the side rails *b* of the bedstead and passing through oblong slots *h* in the sacking bottom, substantially as and for the purpose specified.

Also, the combination of the sacking bottom, cylinders, pawls, and ratchets, grooved wheel and forked plate and the bent rods or hooks, all arranged and applied to a bedstead, substantially as and for the purpose set forth.

**67,305.**—CHARLES HOWARD, Bearsville, N. Y.—*Horse Rake.*—July 30, 1867.—When the rake is in position the cross-foot rests on the rear rake teeth, preventing its rotating. When required to rotate, the upper end of the lever is pushed forward, releasing the cross-head from the rear rake teeth, and depressing the tongs on the hay. The rake head rises with the sliding bars and discharges the load.

*Claim.*—The combination of the lever *e*, the cross-foot lever *K*, and the spring tops *g*, with the sliding bars *b b* of the rake head *D*, and the thills *a a* of a horse rake, arranged and operating substantially as herein described.

**67,306.**—ALEXANDER HUMPHRIES and JOHN KEETHLER, Mount Oreb, Ohio.—*Wheel-Spoking Machine.*—July 30, 1867.—The hub is placed on the axial shaft and the guide set by scale to give the proper dish to the spoke, which is then driven. The guide table is raised to allow rotation of the hub for insertion of another spoke. Adjustable blocks support the ends of the hubs.

*Claim.*—A wheel-spoking machine consisting of the following members, to wit: the axial shaft *G*, adjustable pillow blocks *I* and *J*, swinging table *L*, and sliding rest *o*, constructed and operating substantially as and for the purpose set forth.

**67,307.**—WILLIAM S. HUNTINGTON, New York, N. Y., assignor to JOSEPH SILLIMAN, same place.—*Fastening for Lasts.*—July 30, 1867.—Explained by the claim and illustration.

*Claim.*—The button fastening for lasts, constructed as described, consisting of the spindle *B* revolving freely in hollow screw plug *D*, which is screwed into the last, the lower end of said spindle projecting beyond the said plug, as herein set forth.



**67,308.**—F. W. HUXFORD, Boonsboro, Iowa.—*Fence*.—July 30, 1867.—The top boards are secured to braces which form an angle to the vertical line of the fence. The boards prevent the drifting of snow over the fence.

*Claim.*—The combination of an inclined or angular top D F with the vertical part of the fence, substantially as herein shown and described and for the purpose set forth.

**67,309.**—JULIUS IVES, Brooklyn, N. Y.—*Device for Snuffing Lamps*.—July 30, 1867.—A tray is slipped down on the wick tube and the wick scraped off with a sharp metallic plate, the snuff dropping into the tray.

*Claim.*—First, a snuff tray which is adapted for being applied to the burner of a lamp for the purpose of receiving the snuff during the act of trimming the lamp wick, substantially as described.

Second, the combination of a snuff tray and scraper, substantially as described.

**67,310.**—CHARLES P. JADWIN, Carbondale, Pa.—*Clothes Post*.—July 30, 1867.—The box base encloses a drum which is operated by a hand crank-shaft to wind the cord that ascends through the hollow post and over the pulley at the top. The drum may be held by a dog in the ratchet wheel.

*Claim.*—The box base with drum crank and ratchet attached and hollow post with pulley and rope, as herein described and for the purposes set forth.

**67,311.**—W. R. JAMISON, Taylorstown, Pa.—*Car Coupling*.—July 30, 1867.—The forward bumper is open at top, the link being slipped over its forward end which forms a hook. Should a bridge or trestle work give way beneath, the link disengages itself.

*Claim.*—The bumpers A and B, coupling link C, and coupling pin D, constructed substantially as herein shown and described in combination with each other, as and for the purpose set forth.

**67,312.**—EDWARD JEWETT, Rindge, N. H.—*Manufacturing Veneers*.—July 30, 1867.—The veneer, as it is detached, is compressed between surfaces, which prevents checking and splitting in the line of the grain.

*Claim.*—The mode of manufacturing veneers herein set forth by compressing the veneer continuously from the point where it is severed from the belt to a distance in the rear of the edge of the cutter, substantially as set forth.

**67,313.**—ALBERT E. JOHNSON, Oxford, Mass.—*Shave for Boots and Shoes*.—July 30, 1867.—The knife is secured to a handle, one end of which is curved to enable it to pass the bulge of the upper. An adjustable guard lip regulates the inclination of the knife.

*Claim.*—First, a tool or implement for the shaving of the edges of boot and shoe soles, having one of its handles so curved, in the direction of its length, as to allow the shave to be passed about the curve of the upper at the shank, substantially as described and for the purpose specified.

Second, the guard lip J to the knife in combination with the adjustable guard K, substantially as described for the purpose specified.

**67,314.**—WILEY JONES, Norfolk, Va.—*Shoe Stretching Device*.—July 30, 1867.—The cap and heel plug are driven apart by the action of the screw and thereby stretch the shoe.

*Claim.*—First, a detachable swivel connection for securing the cap or shell to the screw rod, substantially as set forth.

Second, the key or lateral projection c, one or more, on the end of the tenon b of the screw rod A, in combination with the circular recess or countersink d in the outer side of the shell or cap D, concentric with the pole a, and the slot e, one or more, corresponding in number to the keys or projections c in the side of hole a, substantially as and for the purpose set forth.

**67,315.**—T. L. KENWORTHY and A. SILVERS, Collinsville, Ohio.—*Manual Power Machine*.—July 30, 1867.—The operator stands with his feet on the two platforms with his right hand on the handle of the winch. The natural position of the body in turn-

ing the crank throws the weight back and forth on the treadles, agreeing with and giving a corresponding action to that given by the hand crank.

*Claim.*—The arrangement and combination of the treadles D and D', extending in front of the main frame A B, and operating conjointly with the winch o, when constructed and applied in the manner and for the purpose described.

**67,316.**—WILLIAM KESTER, Cherryville, Pa.—*Machine for Making Slate Frames*.—July 30, 1867.—The rough boards are sawed, planed, bored, tongued, grooved, the pieces fitted to form frames for slates. The piece of board is fed on a bed inclined 45°; a saw miters the edges on each end; it is then cut into strips. These are planed, rounded, and grooved, and are joined by the tenons and mortises on their respective ends, which are further secured by dowels.

*Claim.*—First, the construction of the frame-holding device N, consisting of the sidewise adjustable bed b', sliding table c', notched horizontal disk d', spring catch f', oblong plate c', fitting over the pins on the disk d', hinged arms g', and horizontal locking bars h', substantially as described for the purpose specified.

Second, the construction of the slate holder P, consisting of the lid i, in which the plate k' slides, rectangular rest l', against which one corner of the frame fits, a rectangular rest m', having hinged lever n' secured thereto, substantially as described for the purpose specified.

Third, the trough c, arranged in relation with the cutters D D, saw e, concave cutters E, cutters F, spring roller m, and rollers g g, when constructed and operating substantially as described for the purpose specified.

Fourth, the construction of the revolving drills K, crank shafts L, having bearings in the uprights M, and fitting in the vertical bar t, connected to the eccentrics upon the shaft u, all operating as described and arranged in relation with the frame-holding device N, substantially as described for the purpose specified.

**67,317.**—P. KILLIN and H. C. YATES, Decatur, Ill.—*Match Safe*.—July 30, 1867.—The match entering the narrow neck at the bottom of the safe is propelled by a spring, and passing from the safe is automatically ignited by the serrated spring jaw.

*Claim.*—The match safe constructed as described, consisting of the box A, divided into two parts B C by the partition b, necks c, curved wire spring d, loop e, grooved strip g, pivoted feeder i, sliding wires h h', serrated spring jaw m, plate s, and cover a, all arranged as described for the purpose specified.

**67,318.**—PHILIP H. KIMBALL, Prophetstown, Ill.—*Water Elevator*.—July 30, 1867.—The double-faced clutch-drum has spline connection with the winch shaft, and may be thrown into connection with either loose drum by hand levers or by levers with which the buckets come in contact after tipping out their contents. The spring on the trip bar acts with the anti-friction roller to hold the clutch-drum to either position.

*Claim.*—First, the combination of the guides W, levers V, and bar S, all arranged to operate substantially as set forth.

Second, the bar S, in combination with spring R, friction roller Q, trip lever P, arranged to ship the drum D, substantially as set forth.

Third, the drums B, in combination with drum D and gearing b a H H' M, substantially as described.

Fourth, the combination of drum B, wheel M, gearing H H', lever F, toggle J, all arranged and operating substantially as described.

**67,319.**—PHILIP H. KIMBALL, Prophetstown, Ill.—*Automatic Molasses Gate*.—July 30, 1867.—The weight is placed at the required point on the graduated bar; the jug is placed on the platform, which in descending actuates a trip lever to shut the faucet and ring a bell.

*Claim.*—The combination of a weighing or scale beam M, carrying a movable weight C' with a suspended platform F', tripping devices U L H, and with an arm or lever W secured to and operating the faucet or cork S of a barrel or other vessel, all substantially in the manner and for the purpose herein set forth.

Also, the combination of the alarm bell A\*, with



an arm W attached to a cock or faucet S, when said arm is made to close said faucet automatically, substantially in the manner and for the purpose herein described.

**67,320.**—LOUIS KLEIN, Dansville, N. Y.—*Treating Ratan*.—July 30, 1867.—The ratan is condensed by pressure, and may at the same time be dyed and bent.

*Claim.*—The compressing of ratan or calamus, as and for the purpose specified.

**67,321.**—MARY H. LELAND, Milbury, Mass.—*Portable Oven*.—July 30, 1867.—The oven is open on the bottom and sits upon a stove. A flue surrounds the baking chamber and discharges into the flue of the stove, the current being directed by a damper.

*Claim.*—First, a portable oven B, in which are combined a fire space C, oven or chamber D, and a valve to drop into the top of the stove to turn the draft through the space C, substantially as set forth.

Second, the combination with the bottom of the oven of the adjustable dampers *d d'*, substantially as and for the purposes set forth.

Third, the combination of the rib *a*, tube *b* with the damper rods *c c'*, and dampers *d d'*, substantially as and for the purposes set forth.

**67,322.**—CHARLES H. LITTLEFIELD, Turner, Me.—*Metallic Loop*.—July 30, 1867.—The buckles are attached by metallic plates, which are turned around the pivot bar, are riveted to the strap, and have side pieces bent over the reinforce strap.

*Claim.*—The metallic plate of the described form, when the part H is bent as described, to receive and retain the buckle and when the wings A or B are turned over so as to lap the harness strap, as and for the purposes described.

**67,323.**—RICHARD C. M. LOVELL, Covington, Ky.—*Mining and Tunnelling Machine*.—July 30, 1867.—The engine moves on a track parallel with the breast of coal or stone and a forward adjustment is made after each traversing cut. The chisels are worked alternately by their respective engines, their stocks being connected to a walking beam and have weighted pistons sleeved upon them. The steam is changed as the piston passes a certain point and is the means of working the valve. The walking beam actuates the traversing devices.

*Claim.*—First, the combination of the traverse track, the traverse platform, and the adjustable carriage on which the engine is mounted, substantially as described.

Second, a mining or stone-cutting machine, adjustable longitudinally and laterally by means substantially as described, and having two cylinders whose piston rods are connected to a working beam.

Third, in combination with the carriage E' upon which the engine is mounted, the shaft *c*, the splined wheel E, cogged rail A' or B', and rotating devices *d'' a a' d''*, or their equivalents, deriving their intermittent motion from the reciprocating motion of the working beam or its motors—the pistons.

Fourth, the combination of the traverse platform D, the carriage E', the threaded shaft *g c*, and clutch nut *g*, operating substantially as described.

Fifth, the combination of the carriage E' with its rack bar *d'* on the traverse platform, the pawl *d'''*, and latch *d''''*, constructed and operating substantially as described.

**67,324.**—RICHARD C. M. LOVELL, Covington, Ky.—*Valve for Steam Engines*.—July 30, 1867.—As the pistons move past certain points in their respective cylinders, they uncover ports which lead to the respective ends of a cylinder, wherein is a valve-working piston connected to a balanced valve; the motions of the latter govern the induction and eduction of steam to the two single engines, whose piston rods are connected to a walking beam and work alternately.

*Claim.*—The arrangement of the pistons *i i*, ports *m m*, and double-acting, valve-moving piston T, substantially as described.

**67,325.**—JOHN MADDEN, Cleveland, Ohio.—*Bread Cutter*.—July 30, 1867.—The loaf is placed between the arms of the sliding frame and is driven

toward the slicing knives, pushing before it the slice previously cut.

*Claim.*—First, chamfering the bottom of the table immediately under the horizontal knife C, in combination with said knife, for the purpose and in the manner substantially as set forth.

Second, the horizontal knife C, and table A', in combination with the sliding frame, constructed and arranged in relation to each other as and for the purpose set forth.

**67,326.**—JOSEPH I. MABBETT, Titusville, Pa.—*Spring Seat*.—July 30, 1867.—To the side pieces are attached bars, around which endless bands are wound to support a cloth seat.

*Claim.*—The frame A A A, in combination with the rod C C C C and the elastic bands 1 2 3 4 5 6 7 8, when the same are constructed as described in the aforesaid combination, for the purposes set forth.

**67,327.**—FONES MCCARTHY, Orange Springs, Fla.—*Cotton Gin*.—July 30, 1867.—Improvement on his patent of 1840; extended in 1854. Instead of feeding the cotton horizontally to the stripper which removes the seeds, it is fed vertically to the stripping cylinder through a space between the feed board and a vibrating grate, the seeds being kept from rising by the cotton above them.

*Claim.*—First, the feeding of the cotton to the drawing cylinder of the gin in a vertical direction, substantially in the manner as and for the purpose set forth.

Second, the fixed or stationary tooth bar D, in combination with the reciprocating or vibrating toothed bar E, when arranged or placed so that their teeth will be in a space between the feed box and the drawing cylinder down through which the cotton is fed to the drawing cylinder, substantially as shown and described.

**67,328.**—DONALD MCINROY, New York, N. Y.—*Machine for Drying Sized or Dyed Cords, Skirt Wire-Webbing, &c.*—July 30, 1867; antedated July 20, 1867.—A series of parallel pipes are placed in slightly inclined ranges, the material to be dried passing up and down, being interlaced between the pipes. Hollow, heated cylinders, around which the fabric passes, are placed between the ranges.

*Claim.*—First, a series of steam drying pipes *i i*, arranged in ranges in the manner specified, in combination with cylinders *k* placed between the ranges of pipes, as and for the purposes set forth.

Second, the hand hole and cover *s*, in combination with the cylinder *k*, journal box *m*, packings *n* and *q*, and pipe *p*, as and for the purposes set forth.

**67,329.**—WM. J. MCLEA, Buffalo, N. Y., assignor to himself and CHARLES F. YOUNG, same place.—*Alarm Whistle*.—July 30, 1867.—The whistle is raised vertically to use the speaking tube and returns by gravity. The indicator is blown back when communication comes from a distance and indicates the tube used when the room contains several.

*Claim.*—First, the alarm whistle C, constructed, arranged, and operating in the manner substantially as herein described.

Second, so arranging the indicator in reference to a blank whistle or valve, that when the latter is raised for speaking through the tube, the indicator will be closed in the act of raising the valve, substantially as set forth.

**67,330.**—JOHN B. MELDRUM, Paterson, N. J.—*Floor Cloth and Carpeting*.—July 30, 1867.—Jute yarn is bleached, woven into carpet, and then printed.

*Claim.*—A carpet, drugget, or floor cloth, composed of bleached or whitened jute cloth, printed upon in figures, as described.

**67,331.**—WALTER M. MESSICK, Louisville, Ky.—*Circular Swinging Cradle and Baby Walker*.—July 30, 1867.—The cradle, seat, and walker are attached to a rotating post.

*Claim.*—A circular swing cradle and walker constructed substantially as described.

**67,332.**—WM. A. MIDDLETON, Harrisburg, Pa.—*Fence*.—July 30, 1867.—The metallic brace straps are



bent over the corners of the panels and are bolted to the sill at the foot.

*Claim.*—The headed bolts C C passing through the fence panels and top of the metal straps D, when said straps are passed from the sill over the top of the fence and there secured by the nut, in the manner and for the purposes specified.

**67,333.**—WESLEY MILLER, New York, N. Y., assignor to FRANCIS E. BEAL, GRANVILLE S. WEBSTER, EDWARD J. SAWYER and PAUL P. TODD.—*Corsets.*—July 30, 1867.—The raw hide is drawn when in a moist, plastic state over the model and is allowed to dry and harden thereon.

*Claim.*—An improved article of manufacture, a corset, constructed in whole or in sections of raw or partially tanned hide or parchment, substantially as before explained.

Also, perforating the said corset, for the purpose of ventilation and ornament, essentially as set forth and explained.

**67,334.**—JOHN F. MILLIGAN, St. Louis, Mo.—*Cotton Bale Tie.*—July 30, 1867.—The metallic concavo-convex tie piece has elongated slots through which the bands engage. The lower corners of the central piece of the tie have acute angles to bite upon the band.

*Claim.*—The tie piece A provided with the mortiser b and b', the corners thereof being acute and shaped in the crescent form of cross section as herein described and when furthermore arranged with a central rail a' of diminished thickness, substantially as and for the purpose set forth.

**67,335.**—J. K. MOORE, Millsville, N. J.—*Fertilizer.*—July 30, 1867.—Oyster shells pulverized are used either with or without sulphuric acid and water as a fertilizer.

*Claim.*—First, the powdered clam or oyster shells as a fertilizer, substantially as set forth.

Second, the ground shells, when used with the ingredients specified in the manner substantially as and for the purposes set forth.

**67,336.**—CURTIS C. MORGAN, Auburn, N. Y.—*Knife Cleaner.*—July 30, 1867.—The frame is attached by a screw to the table, and the rubber roller, covered with polishing powder, is rotated in contact with the knife by a wheel and pinion.

*Claim.*—The body A constructed as set forth in combination with box B and roller C, when all are arranged as described.

**67,337.**—DAVID G. MORGAN, Jordan, N. Y.—*Window Curtain.*—July 30, 1867.—The roller journals slide in vertical slots, being supported by wires attached to cords by which the roller is vertically adjusted. The roller is rotated by a single cord which passes through the eye of the dog lever acting on a ratchet wheel.

*Claim.*—The arrangement of the plates a a, wires i i, and cords D D' in combination with the roller C, ratchet y, and dog m, whereby the curtain is raised or lowered and secured by the spring rod, in the manner substantially as and for the purposes specified.

**67,338.**—J. MORSS, Philadelphia, Pa.—*Square.*—July 30, 1867.—The adjustable square and bevel has an elongated slotted blade secured in position by a set screw.

*Claim.*—The slotted blade B and thumb screw and nut or their equivalents, in combination with the stock A, its parallel edges a a and bottom f of the slot arranged at right angles with the said edges, the whole being constructed as and for the purpose herein set forth.

**67,339.**—IGNATZ MOSER, Cincinnati, Ohio.—*Wardrobe or Closet.*—July 30, 1867.—The rotating frame within the closet or recess may be placed to have the different sections open into adjoining rooms and by turning round will present the various sections and drawers to either room.

*Claim.*—First, the provision in a closet or wardrobe of the revolving frame E e' F J J', as and for the purpose stated.

Second, in combination with the frame E e' F J J' the curved guards K.

Third, a closet or wardrobe composed of separable parts A B C, fastened together by clamps D d and keys N, or their equivalent, for the purpose set forth.

**67,340.**—RICHARD NEEDHAM, Dukinfield, England.—*Steam Boiler.*—July 30, 1867; antedated December 26, 1861.—The mouths of the funnels are so presented as to collect the seum which is drawn off by opening the cock of the exit pipe.

*Claim.*—The combination with a steam boiler of one or more funnels or open mouthed skimmers, so constructed and arranged and provided with an exit pipe as to collect the seum from the surface of the water, substantially as herein above set forth.

**67,341.**—JOSEPH W. NORCROSS, East Boston, Mass.—*Clothes Line Hoop Block.*—July 30, 1867.—The frame of the snatch block is made of one bent metallic piece and encloses the sheave.

*Claim.*—A clothes line or hook block, the shell of which is provided with an aperture a and loop b, and made in one continuous piece of iron or other metal as shown and described.

**67,342.**—JOHN A. OLMSTEAD, New York, N. Y.—*Boat and Trunk.*—July 30, 1867.—The lockers are formed in various sections of the boat, the hinged lids excluding water. The hinged end sections respectively fold into and over the middle section when forming a trunk, the rowlocks forming handles thereto. The sections, when opened out, are fastened by bolts engaging in eyelet projections from the end sections.

*Claim.*—First, the convertible boat and trunk composed of three sections hinged to each other and arranged to fold together, substantially as herein set forth.

Second, the lockers d, arranged in relation with the space e of the central section B, substantially as and for the purpose herein set forth.

Third, the lockers g arranged in relation with the space e of the stern section A, substantially as and for the purpose herein set forth.

Fourth, the rowlocks a\*, constructed and arranged to serve as handles when the boat is used as a trunk, substantially as herein set forth.

**67,343.**—SOLOMON OPPENHEIMER, Peru, Ind.—*Bucksaw Frame.*—July 30, 1867.—The frame engages in alternate, interlocking, looped straps.

*Claim.*—The above described attachment to the saw frames, or its equivalent, when used and applied for the purpose and in the manner shown and explained.

**67,344.**—DANIEL E. PARIS, Troy, N. Y.—*Cooking Stove.*—July 30, 1867.—Improvement on the patent of Samuel B. Spaulding, June 22, 1858. The return flue chamber under the reservoir has a revolving damper that when in a horizontal position forces the caloric current round beneath the reservoir, and when rotated shuts it off therefrom. The annular top rim turns down around the reservoir to conduct spilt water.

*Claim.*—First, the revolving damper or flue plate made to operate in the chamber under the reservoir as follows: when lying horizontally it drives the heat or products of combustion under the bottom of the reservoir; when turned up vertically it allows it to pass directly into the exit pipe, and shuts it off from the reservoir by closing the opening through or under the back of the stove.

Second, the return flue chamber, or open seat under the reservoir, connected with the central rear flue of the stove, by an opening through or under the back plate of the same, in combination with the revolving damper or flue plate within said chamber, and the reservoir above.

Third, the construction of the annular cap or top rim N, which shall entirely surround the top of the reservoir, with the outer edge of said rim turned both upward and downward, so as to form at once a finished molding for its outer edge and also a water guard for the purpose of conducting any water spilled upon the top down into the reservoir, substantially as herein shown and described.

Fourth, the backward and forward motion of the heat; in other words, a return flue, underneath a reservoir, situated in rear of a driving flue cooking stove,



in combination with a revolving damper, or a controlling flue plate creating or directing such flue as it passes out from the rear flue or flues of the stove and then back again for the purpose of heating the reservoir.

**67,345.**—WM. A. PARMELE, New Haven, Conn.—*Blower*.—July 30, 1867.—The fans are oscillated in a semi-cylindrical case with an upper exit. The plane side of the case has inner opening valves, and the fans have valves opening toward each other. The oscillation forces air through the upper opening.  
*Claim.*—First, the oscillating fans D with valves E, in combination with the bottom plate A, with valves B, and case F F<sup>1</sup>, forming an air passage F<sup>2</sup>, said parts being respectively constructed and arranged substantially as set forth.

Second, the fans D, attached to the shafts C C', in combination with the arms I I', connecting rods II II', and pulley G, and arranged to operate substantially as set forth.

**67,346.**—CHARLES H. PORTER, Albany, N. Y.—*Corking Bottles*.—July 30, 1867.—The spiral wire has an eye to receive the snap attached by a chain to the bottle neck.

*Claim.*—A screw furnished with an eye or loop at one end when such screw is inserted in a cork, substantially as and for the purpose described.

Also, in combination with the above, a chain having a spring catch, or their respective equivalents, and hung to the neck of a bottle, substantially as described, for the purposes specified.

**67,347.**—JACOB REEF, Jr., Olney, Ill., assignor to WILLIAM H. WILLIAMSON, FRANK POWERS, and HIRAM W. WHITE, same place.—*Trestle and Scaffold Supporter*.—July 30, 1867.—The legs, connecting bars and braces are extended by sliding past each other in their bands, and are secured by set screws.

*Claim.*—First, the extensible tie-bar D D', when used in combination with the sliding bars A A', legs B B', and diagonal braces E E', as and for the purposes set forth.

Second, the legs B, connected to the bars A A' by bolts G, affording rigid lateral support, and adapted to fold longitudinally against the bars as represented.

Third, in combination with the sliding legs B B' of a trestle of the construction described, the two bands a a, one attached to the upper end of the sliding leg B' and enclosing the leg B, the other attached to the lower end of the leg B and enclosing the leg B', as and for the purposes set forth.

**67,348.**—ABRAHAM REESE, Pittsburg, Pa.—*Machine for Rolling Horseshoe Bars*.—July 30, 1867.—The rolls are so grooved and recessed as to form the bars of iron into a series of horseshoe blanks.

*Claim.*—First, a pair of cylindrical metallic rolls, one grooved and the other flanged with a projecting creaser or creasers i in the bottom of one or more of the grooves, and one or more projecting formers s on the outer face of the corresponding flanges, in combination with one or more spring guides f, all constructed, arranged, and operating substantially as described.

Second, a pair of cylindrical metallic rolls, one having one or more creases i on its outer cylindrical surface, and the other shouldered or made with a recess h and print s', in combination with a vertical friction roller n, all constructed, arranged, and operating substantially as and for the purposes above described.

**67,349.**—WILLIAM W. REYNOLDS, Brandon, Vt., assignor to THE HOWE SCALE COMPANY, same place.—*Weighing Scale*.—July 30, 1867.—The lever is applied in the usual way, and to prevent either of the bearings from being thrown out of place the supports are extended downward on opposite sides and underneath the lever. A chamber is formed within the scale-pan supporter for receiving shot to balance the scales.

*Claim.*—The arrangement and combination of the weight holder or disked cap C, with the standard B, the lever A, and the fulera.

Also, the combination and arrangement of the extensions b b and the studs c c, or the equivalents

thereof, with the weight and scale-pan supporters, as set forth.

**67,350.**—WM. HADEN RICHARDSON, Glasgow, Scotland.—*Manufacture of Iron*.—July 30, 1867.—The tabular "raddle" or tuyere affords a means for the introduction of air, steam, water, carburized hydrogen, oxide of manganese, &c., into the body of iron; or the matters may be forced into the puddling furnace through a fixed tuyere.

*Claim.*—First, the process or processes of manufacturing or producing improved malleable iron, as hereinbefore described, or any mere modification thereof.

Second, the introduction thereof of a blast or blasts of air or air and steam, either separately or combined, into the body or mass of metal in the puddling chamber, facilitating the manufacture, and for the purpose of improving the quality of iron, (in contradistinction to blowing air or steam upon the surface of the charge,) as hereinbefore described, or any mere modification thereof.

Third, the process of manufacturing iron by first introducing air or steam into its mass in the puddling chamber and afterward finishing it in the manner of puddled iron, as hereinbefore described, or any mere modification thereof.

Fourth, the use and construction of hollow rabbles, passages or openings for the purpose of introducing a blast or blasts of air or steam into the mass of molten metal in the puddling chamber, as hereinbefore described, or any mere modification thereof.

Fifth, the introduction of pulverized oxide of manganese (or other substance containing oxygen in combination) into the mass of molten metal in the puddling chamber, as hereinbefore described, or any mere modification thereof.

**67,351.**—D. C. RIGGS, St. Joseph, Mo.—*Gang Plow*.—July 30, 1867.—Horizontal rotating cutters accompany each plow, to cut the bottom of the succeeding furrow slice. The tongue is vertically adjusted by a bar held by a pin traversing its guides at one end. The plow beams are raised at the fore end by a rock shaft, which has arms beneath the beams and a holder arm whose projection enters one of a series of holes in a fixed segmental plate.

*Claim.*—First, in combination with the plows B, the employment or use of horizontal cutters D G, arranged and applied to operate in the manner substantially as and for the purpose set forth.

Second, the lifting or elevated bar K, when arranged in connection with the axle, draft pole and plow beams, to operate in the manner substantially as and for the purpose specified.

Third, the shaft L on the axle H, provided with the arms k k l, and arranged in relation with the elevating bar and plow beams, to operate in the manner as and for the purpose set forth.

**67,352.**—D. D. ROBINSON, Niles, Mich.—*Punch and Shears*.—July 30, 1867.—The punches and dies are in the peripheries of disks, and vary in size. The jaws and disks have holes for traverse pins, to hold them to the proper adjustment. The machine is operated by spur rollers, which roll in unison upon inclined racks, one of them having a lever by which they are actuated.

*Claim.*—First, the wheels D and E, with their punches and dies, all constructed, arranged, and operating substantially as described.

Second, the stand A, having at one end the die wheel E, and rack-inclined plane L at the other, with the portion b of the shears supported about its middle, in combination with the spring beam B, with the punch wheel D at one end, the rack-inclined plane L' at the other, and bearing the portion a of the shears, the rollers m m being arranged therewith, and operating substantially as described for the purpose specified.

Third, the set screw R, in combination with the adjustable inclined plane L and the geared rollers m m, substantially as described.

**67,353.**—PRINCE W. ROBINSON, New Bedford, Mass.—*Dough Kneader*.—July 30, 1867.—The dough tray runs on rollers as the corrugated kneader is rotated by the hand crank.

*Claim.*—The combination of the frame A, rollers



B, tray C, and adjustable corrugated roller D, substantially as described for the purpose specified.

**67,354.**—WILLIAM ROSENKRANZ and MICHAEL ESCH, St. Paul, Minn.—*Water Tank and Refrigerator*.—July 30, 1867.—The water from an ice chamber is forced by a clock-work pump into the central tank, which has an overflow pipe, and is surrounded by bottles on a rotatable perforated disk over an ice drawer.

*Claim.*—The tank E, when arranged as herein shown and described, in combination with the drawer H (perforated,) false bottom D, revolving ring I and case A of a refrigerator, all made substantially as set forth.

**67,355.**—EDWIN M. SCOTT, Auburn, N. Y.—*Machine for Grinding Reaper Knives*.—July 30, 1867.—The disk supporting the standards of the rotating grinder shaft is pivoted near its periphery to the upper slide plate, and is secured in the elongated slot of the bench by a loose bolt held by a slide plate below. A lever, by turning the disk, brings the grinder against the knives.

*Claim.*—First, in combination with disk C, the slides B B and thumb screw *d*, as and for the purpose set forth.

Second, the disk C, slides B B, loose bolt E, lever G, all combined substantially as and for the purpose specified.

**67,356.**—CHARLES E. SEARLES, Stamford, Conn., assignor to himself, EDWIN HOYT and LAFAYETTE FARRINGTON, same place.—*Tobacco Pipe*.—July 30, 1867.—The plug of the socket beneath the bowl has holes leading from the outside to the bowl and stem, through which water may be forced to clean the same.

*Claim.*—The combination with the bowl and stem of a tobacco pipe of the socket C and cup D, both provided with an aperture or apertures in the top, and the former with the holes or apertures *d e* on opposite sides, and the latter with the holes *i j k* on opposite sides, all arranged and operating substantially as herein specified.

**67,357.**—PRENTISS SELBY, San Francisco, Cal.—*Hanging Stirrups*.—July 30, 1867.—Explained by the claim.

*Claim.*—Combining with the ordinary stirrup straps of a saddle an elastic strap that will constantly tend to keep the stirrups to the foot of the rider, while his weight is taken upon the ordinary leather strap, substantially in the manner and for the purpose described.

**67,358.**—WM. SERVISS, Sidney, Ohio.—*Apparatus for Making Sheet-metal Pans*.—July 30, 1867.—The sets have two clamping bars with adjustable gauge strips between, and are used to embrace the sides of the blank for bending.

*Claim.*—First, the combination of the two clamping plates *a* with the adjustable gauge *f*, substantially as and for the purpose specified.

Second, the arrangement of the gauge *f* between the clamping plates *a* for operation, substantially as herein set forth.

**67,359.**—T. W. SHAPLEIGH and M. J. COLMAN, Boston, Mass.—*Spring Bed*.—July 30, 1867.—A cross-bar clasps the base coil of the spring, and is fastened by a bolt and nut to the slat. The end of the base coil of the spring is bent around the next coil.

*Claim.*—The arrangement and combination of the cross-bar C, the screw D and nut E with the slat, and the conical spring with the base coil connected with the next coil of the spring, substantially as set forth.

**67,360.**—LEONARD SHELTERS, Manchester, N. H., assignor to himself and JOHN PATTEE, same place.—*Calipers and Dividers*.—July 30, 1867.—The two sections being united by the pivot can be opened and adjusted to answer for calipers, pincers or compasses. A set screw in the curved slot secures a given adjustment.

*Claim.*—The combination of the calipers and arms B B', together with the points H H', forming the legs of the dividers and turning on the pivot C, and on which arms are marked the divisions of a rule or scale, and the stop D, the thumb screw G in the slot F, or their equivalents, substantially as set forth.

**67,361.**—W. P. SLENSBY, Chicago, Ill.—*Boiler Cleaner*.—July 30, 1867.—The segmental plates fit the outside of the tubes and inner part of the shell, and serve by the reciprocation of themselves and the thimbles enclosed between them to cleanse the surface.

*Claim.*—The arrangement of the circular plates C C', secured together by rods *a*, band D, thimble or rings between said plates, screw rod E, substantially as herein shown and described, whereby to clean the interior surfaces of steam generators and the exterior surface of the boiler tubes, and at the same time agitate the water in the boiler.

**67,362.**—ELEAZER SMALL, Dennisport, Mass.—*Bed Bottom*.—July 30, 1867.—The slats have pendent guide pins surrounded by spiral springs, and traverse holes in their supporting bars.

*Claim.*—The perforated bars C C, with metal plates D at each end, for securing the pins *e e* of the bed bottom as constructed, and to adjust the same to suit the size of the bedstead, all constructed and used in the manner as specified.

**67,363.**—HIRAM SMITH and THOMAS J. LUMIS, Norwich, Conn.—*Window Blind*.—July 30, 1867.—The square ends of the pivoted slats fit closely to the inner beveled edges of the stiles.

*Claim.*—The construction of movable blind slats with square shoulders *b b*, in combination with stiles which are constructed with rounded or reduced edges, substantially in the manner and for the purposes described.

**67,364.**—JOSEPH SMITH, Philadelphia, Pa.—*Escape Pipe for Steam Engines*.—July 30, 1867.—The ends of the escape pipe have a nearly uniform area, the middle portion is expanded to allow the partial condensation of the steam, and thereby prevent the drumming noise of the escaping steam.

*Claim.*—A steam-escape pipe for high-pressure engines, locomotive or stationary, whose inlet and exit openings shall be of uniform or nearly so areas, and of much less area than a portion at or near the exit thereof, so that the steam can expand, lose its force, and become muffled, before its escape into the air, substantially as and for the purpose described.

**67,365.**—WM. SMITH, Nunda, N. Y.—*Machine for Pulling Hop Poles*.—The pole has a loop secured to its under side, which tightens the grasp of the jaws as the lever is depressed.

*Claim.*—The attaching of the iron-beveled jaws to the end of a beveled lever and working within a quadrangular band, which gives the jaws a side draft upon the pole, thereby raising it perpendicularly up; the more force applied to the lever, the more firmly the jaws grasp the pole or anything that is to be drawn out of the ground.

**67,366.**—W. HARROLD SMITH, Memphis, Tenn.—*Preserving Wooden Piles*.—July 30, 1867.—The pile is enclosed by an earthenware pipe, leaving an annular space to be filled with sand, concrete, lime, cement, coal tar, gravel, or earth.

*Claim.*—The wooden pile, timber, or structure A, protected substantially in the manner and for the purposes set forth.

**67,367.**—P. H. SNELLING, Wartrace, Tenn., assignor to himself and JAMES NUTT, same place.—*Car Coupling*.—July 30, 1867.—The coupling pin is connected to an oscillating guide stirrup. In coupling, the entering link forces back the spring plunger and allows the pin to fall. A lip on the plunger holds down the inner end link.

*Claim.*—The combination of the spring-pressed plunger B, within the draw-head, having an upper projection or lip *d*, in front, coupling pin D, and stirrup E, all for operation relatively to and in connection with the coupling link, substantially as specified.

**67,368.**—WALTER S. SHOTWELL, Paterson, N. J.—*Drawhead for Railroad Cars*.—July 30, 1867.—The drawheads have similar side hooks for engagement, and springs on the opposite side to force them together.

*Claim.*—First, the shoulders *a*<sup>2</sup> upon the drawheads



B, constructed as described, whereby the drawheads are prevented from slipping by each other when brought together, substantially as herein shown and described.

Second, in combination with the above, the springs *e e*, upon the inner end of the drawhead and upon each side of the cross bar *d*, whereby the shock of the drawhead upon the shoulders *a*<sup>2</sup>, as they approach each other, is partially relieved, substantially as described for the purpose specified.

**67,369.**—W. R. STEPHENSON, Transfer Station, Pa.—*Saw*.—July 30, 1867.—The teeth are made in series of three; two of which score the sides, and the other cuts out the center.

*Claim.*—The teeth B B', constructed as described, provided respectively upon opposite sides with the inclined grooves *b*, and having the cutting lips *c d*, and inclined bevel surfaces *a*, as herein set forth for the purpose specified.

**67,370.**—W. X. STEVENS, Waterford, N. Y.—*Compound Tool*.—July 30, 1867.—The joint plates of the hinge are formed into a cutter.

*Claim.*—The compound tool, consisting of pliers and shears, constructed and arranged substantially as herein described, as an improved article of manufacture.

**67,371.**—W. H. STICKEL, Knightstown, Ind.—*Prop Block for Carriage Tops*.—July 30, 1867.—The bearing surfaces of the prop blocks are of india-rubber.

*Claim.*—The prop block A, when provided with the dovetailed groove *e*, adapted to receive the corresponding dovetailed elastic removable strips D, operating as described for the purpose specified.

**67,372.**—PETER B. B. STILES, Galesburg, Ill.—*Rotary Harrow*.—July 30, 1867.—The spindle of the harrow wheel is so connected to the cross bar as to depress the outer sides of said wheels and cause rotation.

*Claim.*—First, the rotating harrow wheels A, formed by the combination of the rim *a*<sup>1</sup>, arms or spokes *a*, clamping plates *a*<sup>3</sup>, and cutter pins B, with each other, substantially in the manner herein shown and described and for the purpose set forth.

Second, the combination of the adjustable loops or clevises F with the cutter pins B and coupling bar D, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the draft bars C and short chains *c*<sup>1</sup> with the center pins B and axle G of the sulky, substantially as herein shown and described and for the purpose set forth.

**67,373.**—MERRITT L. STODDARD, Corning, N. Y.—*Burning Fluid*.—July 30, 1867.—Benzine, 40 gallons; sweet spirits of niter, one pound; and gum camphor,  $\frac{1}{2}$  pound.

*Claim.*—The within-named ingredients when mixed in the proportions herein set forth for the purpose described.

**67,374.**—SEDGWICK A. SUTTON, Pawtucket, R. I., assignor to himself and LYSANDER FLAGG, Smithfield, R. I.—*Apparatus for Cutting Files*.—July 30, 1867.—The file is clamped upon the semi-cylindrical slide rest and fed beneath the tool by the rotation of the screw. The hammer is operated by a cam and spring, being raised by the former. As the blank is moved forward the effect of the blow is lessened from the increasing width of the blank and shortening of the stroke, owing to the increasing thickness of the same.

*Claim.*—First, the adjusting of the cutter T, relatively with the face or surface of the file blank, by means of the pivoted bar N, circular plate V, with cutter arm Y attached, and the arm *k* of the nut J to act upon the bar N, substantially as shown and described.

Second, the regulating of the force of the blow of the hammer by means of the arm U' bearing against the spring Q and operated by the arm *k* of the nut J and the pivoted bar M, substantially as shown and described.

Third, the cutter arm Y pivoted in the bearing *s* of the bolt W, in combination with the cutter T and

semi-cylindrical bed A' for the blank, substantially as set forth.

**67,375.**—SAMUEL SYKES, Chippewa Falls, Wis.—*Dog for Saw Logs*.—July 30, 1867.—The dog is detached by blows upon its upwardly-extending prong.

*Claim.*—The part F, forming with the body of the dog a bent lever, as and for the purpose herein shown and described.

**67,376.**—CHARLES E. FOLEY, Brooklyn, N. Y.—*Propeller*.—The shaft passes through the side of the vessel and has radial bars to which propelling wings are hinged, their range in opening and closing being determined by stops. The shaft oscillates and the wings are vibrated back and forth in the water, closing during their non-effective stroke.

*Claim.*—The arrangement of the shaft B, sleeve box E, plate D, crank G, ratchet wheel *h*, spring *i*, clutch J, shifting lever *k*, spring O, and stud *m*, substantially as described for the purpose specified.

**67,377.**—MORRIS TRAVER, Poughkeepsie, N. Y.—*Spittoon for Railroad Cars*.—July 30, 1867.—The spittoon is sunk in the floor and has a conical spring stopper covered by a concave-convex disk which hides the contents, which are discharged by pressure upon the disk.

*Claim.*—The construction and arrangement of the convex disk E, to whose under side is secured the spring rod E, within and supporting the hollow cone C, working through the braced plate G, and pressing up the said disk E against the braces M of the box A, as herein set forth for the purpose specified.

**67,378.**—GREGOR TRINKS, New York, N. Y.—*Folding Chair*.—July 30, 1867.—The seat is pivoted to the back pieces which form also the fore legs, and is adjustable by its scalloped bars upon the pieces forming the hind legs and front seat. Flexible strips connect the upper ends of the parts and form arms.

*Claim.*—First, the scalloped bars *g*, or their equivalents, in combination with the seat B, cross-bars *f*, and side pieces A, of a folding chair constructed and operating substantially as and for the purpose described.

Second, the adjustable slides *f*, in combination with the flexible arm pieces *h*, of a folding chair constructed and operating substantially as and for the purpose set forth.

**67,379.**—SETH G. TUFTS, Maineville, Ohio.—*Harness Hame*.—July 30, 1867.—The strap at the foot of the hame has side flanges fitted into grooves in the side to strengthen it. The tug hook is open at top and is closed by a stop pivoted to the hame by a screw.

*Claim.*—First, the strip B, provided with flanges *b*<sup>1</sup>, overlapping the sides of the hame A, and fitting with grooves in the sides thereof, so that their outer sides shall be flush with the sides of said hame, as herein set forth for the purpose specified.

Second, the combination of the strap piece E with the open hame tug hook C, and with the hame A, substantially as herein shown and described and for the purpose set forth.

**67,380.**—ARMSTRONG TWEEDY, Collinsville, Ohio.—*Hedge Trimming Machine*.—July 30, 1867.—The cutter bar, similar to that of a mowing machine, is adjustable in inclination to trim the hedge sides and top. An inclined bar runs along the ground and raises the lying limbs to the action of the rotary cutter.

*Claim.*—First, the cutter O, in combination with knives R, when constructed, arranged, and operating in relation to the frame G G<sup>1</sup>, in the manner and for the purpose described.

Second, the combination of the cutter E with bar L, plate M, post P, and rod J, when arranged to operate conjointly with cutter O and knives R, in the manner substantially as and for the purpose specified.

**67,381.**—DAVID UTLEY, 2d, Moscow, N. Y.—*Sad-iron Heater*.—July 30, 1867.—The shell for receiving the sad-irons has a series of slides that rotate and cover the slots in which the handles slide, and also cover the openings in the rim for the entrance of the irons. The arms of the slide have a layer of



sheet-iron to facilitate the cutting of notches to correspond to the handles.

*Claim.*—First, the combination of the sides B with the shell A, so arranged as to slide around and cover the slots around the handles, as herein set forth.

Second, the employment of the thickness of sheet metal *m*, in combination with the slides so arranged as to be notched to adapt them to different sized handles, as herein set forth.

Third, retaining the slides in position in the shell by the grooves *i*, and projecting rim *k*, as specified.

**67,382.**—HENRY VAN AUDALL, Keokuk, Iowa.—*Apparatus for Kindling Fire.*—July 30, 1867.—The horizontal cylinder containing oil has vertical tubes and wicks arising therefrom. The wicks are lighted and the vertical tubes entered between the bars of the grate.

*Claim.*—The portable fire kindler, constructed as described, consisting of the hollow metallic cylinder A, closed at each end, and having supply tube B, the vertical parallel wick tubes C, four or more, secured together by means of the cross piece D, bail E, pivoted at each end of the cylinder A, adjusting wire G, handle H, attached to vertical rod F, all arranged to operate as herein set forth for the purpose specified.

**67,383.**—CHARLES VAN DE MARK, Phelps, N. Y.—*Cooking Stove.*—July 30, 1867.—A transverse, hinged valve is seated between the furnace and heating chamber and is opened or shut to convey the calorific to the oven, or to the boiler, which has a flue ascending around its side.

*Claim.*—The openings *b b*, in the top plate of the stove, in combination with the cross partition G and valve or valves *a*, for the purpose herein specified.

Also, the notches or openings *i i*, at the sides of the front boiler openings *b b*, substantially as and for the purpose herein specified.

Also, the combination of the boiler or heater D, and the stove, each constructed substantially as described, and both operating together substantially as and for the purpose herein specified.

Also, the division plate *h*, either with or without the plate *g*, on the boiler, for the purpose specified.

**67,384.**—JEAN LOUIS VERGNIAIS, Paris, France.—*Dredging Machine.*—July 30, 1867.—The perforated sucker is attached by adjustable tubes to the pumps, which are actuated by the engine; the sucker removes mud from the bottom of rivers and harbors to deepen the channel.

*Claim.*—First, the undulating lower face of the sucker, having perforations on the sides of the undulations, substantially as described.

Second, the combination with the induction and eduction valves K D, and the pump chambers B, or the jointed pipe and perforated undulating-faced sucker, substantially as described.

**67,385.**—J. P. VINSONHELLER, Urbana, Ohio.—*Paint.*—July 30, 1867.—Composed of one bushel of lime, dissolved in water, five pounds of any pigment not containing lead, and five pounds of dissolved copperas.

*Claim.*—The fixing of the color of any pigment that may be used, by its combination with lime and copperas, as and for the purpose described.

**67,386.**—RICHARD WALKER, Batavia, N. Y.—*Lifting Jack.*—July 30, 1867.—The pivoted lever raises the stop block, which is supported by the rack, resting upon the pin.

*Claim.*—The lever C, stop block D, and serrated plate F, when acting in conjunction, as and for the purpose herein set forth.

**67,387.**—JAMES WALSH, Stark county, Ill.—*Harrow.*—July 30, 1867.—The transverse bars are hinged together by hooks and eyes, the forward bars having perforations for the regulation of the draft. Extension bars attach a supplementary draft when required.

*Claim.*—The straps of iron B B and C C, with their hooks *e* and eyes *d*, or hinges, and arranged in pairs, the jaws *a b c* on their undersides, also the regulating holes *i i i*, also the attachment or extension straps D D, for carrying additional timbers E E,

all for the purposes described, and combined in the manner above stated.

**67,388.**—CHARLES E. WAREHAM, Sedalia, Mo.—*Mop Wringer.*—July 30, 1867.—One roller is journaled in the standard and the other in the swinging frame, which is operated by a handle attached thereto. The machine runs on casters.

*Claim.*—First, the roller D, set in the swinging frame E, which is journaled in B, all as set forth, in combination with the roller C, also journaled in B, in manner and for the purpose substantially as described.

Second, the mop wringer, composed of two rollers D and C, mounted in the uprights B B, on floor A, casters *a*, substantially as described.

**67,389.**—GEORGE WARNER, West Liberty, Iowa.—*Grain Binder.*—July 30, 1867.—The wire is passed from the reel through the tubular shaft and over grooved pulleys upon the oscillating bar.

This bar carries at its end an arm which, by the said oscillation, conveys the wire beneath the platform and around the gavel, a spring finger serving to drive the wire along the slot and to contact with the other part of the same. The double wire is then twisted by a wheel and cut off.

*Claim.*—First, the combination with the bar E, arm F, finger G, and wire H, of the gripping, cutting, and twisting device composed of the wheel K provided with teeth *g*, the holder L with knife *i*, slotted wheel P, and revolving forked bar *e'*, all arranged to operate substantially as and for the purpose set forth.

Second, the shaft S, for giving motion to the gripping, cutting, and twisting device connected with the shaft B, by the gearing X Y, in combination with the pin *u* attached to the slide *v*, the holes *b'* in the wheel X, and the bar V connected with an arm *o* on shaft *p*, and provided with the slide U having the forked bar *e'* attached, and also provided with a pendent pin *g'* fitted to the grooved hub Y', all arranged to operate substantially in the manner as and for the purpose set forth.

**67,390.**—WM. WHITWORTH, Cleveland, Ohio.—*Table-Leaf Support.*—July 30, 1867.—The hinged arm follows in the slot in the stay; as the leaf reaches a horizontal position the side springs are released from the slot and arrest the downward movement of the arm.

*Claim.*—One or more springs E placed upon the side of the hinged arm D, in combination with the slotted stay C, in the manner as and for the purpose substantially as set forth.

**67,391.**—JOHN WILCOX, Springfield, Mass., assignor to himself and JOHN HOOKER, same place.—*Putting-up and Preserving Butter.*—July 30, 1867.—The cups are ranged above each other in a jar and have print covers attached to each. A follower and elastic cushion are placed on top, and a transverse bar sliding down an inclined groove in the jar secures the whole, after which they are covered with brine.

*Claim.*—First, the combination of the cups *a a a* with each other and with the main jar A, substantially as specified, for the purpose set forth.

Second, the elastic cushion *c*, in combination with the bar *b*, grooves *g g'*, and followers *e*, as and for the purpose specified.

Third, a packing *k* for the protection of the cups *a a a* within the main jar A.

Fourth, a butter cup and stamp or marker *a*, when made in one and the same piece, substantially as and for the purpose described.

**67,392.**—FURMAN R. WILSON, New York, N. Y.—*Valve Gear.*—July 30, 1867.—The lower slide valves are operated by a crank connected to a slide rod whose arms reciprocate on the valve rod and actuate the same by collars upon it. The upper valve rod is hinged to levers reciprocated by double conical cams on rods attached to the pistons and traversing the upper heads of the cylinders.

*Claim.*—First, the combination of the crank Q, sliding lever M, and valve rod L, in the manner and for the purpose substantially as set forth.

Second, the combination of the rod K, cam *e*, lever *r*, and rod U, in the manner and for the purpose substantially as set forth.



**67,393.**—ABRAHAM M. WRIGHT, Safe Harbor, Pa., assignor to himself and F. R. WITMER, same place.—*Bag Fastener*.—July 30, 1867.—The ring connected to the curved link by a cord is engaged by the lever hook, which draws through the ring till they engage in a recess of the hook near its connection with the link.

*Claim.*—The arrangement of the ring D, cord C, link B, in combination with the combined hook and wedge lever A A', all constructed and operating in the manner and for the purpose specified.

**67,394.**—ROBERT J. CLAY, Greenpoint, N. Y., assignor to himself, J. T. HUSTED, E. G. BURLING, and CORNELIUS CORSON.—*Machine for Burring Wool, &c.*—July 30, 1867.—The rotating cylinder has serrated plates on its periphery, the teeth of which have a tangential position. The clearer-plate partially encircles the cylinder and has inwardly and downwardly inclined edges. The material is fed by an endless apron to two rollers, the upper one having an oscillating comb, in near contact with it, to loosen up the wool. The wool passes from these rollers to the main card cylinder and the burrs are detached by the clearer. The wool is cleared from the cards by a rotating brush.

*Claim.*—First, the combination with suitable feeding mechanism and knife or clearer J of a rotating cylinder, provided on its periphery with smooth comb-like plates or strips, arranged to encircle the cylinder, and with their teeth in tangential relationship thereto for operation together, substantially as specified.

Second, in combination therewith, the construction of the plates or strips F, with their teeth *a'* beveled from beneath or on inner faces thereof, and their rear edges *b'* inclined from above or outer faces of the same, essentially as shown and described.

Third, the combination with a cylinder encircled by comb-like strips of a knife or clearer J, arranged on its clearing edge or edges to occupy an inclined position relatively to the strips, or the latter an inclined relationship to the clearer, for operation together, substantially as herein set forth.

Fourth, in combination with the feeding rolls, guiding plate, or tray and laying roller, or their equivalents, the comb or comb H having a curvilinear travel across or relatively to the feed, essentially as specified.

**67,395.**—W. L. ALDRICH, Norwich, Conn., and WM. EVANS, Seymour, Conn.—*Machine for Twisting Augers*.—August 6, 1867.—The blank is pressed between rolls upon a slide rest, which are drawn together by a hand-screw. The blank is twisted simultaneously with the action of the rollers.

*Claim.*—First, regulating the twist of augers and bits by means of the rollers *g g*, or their equivalents, arranged upon a slide rest, and operating substantially as described.

Second, the combination of end supports *a' b* with the regulating clamps *g g*, substantially as described.

Third, the construction of the female back center *b*, substantially as described.

**67,396.**—WALTER ASHTON, Utica, N. Y., assignor to himself and EDWARD K. QUINN, same place.—*Screw Plate*.—August 6, 1867.—Two of the three segmental chases are in a fixed die and the other on a bar projected by the screw handle and sliding in the adjustable guide plates.

*Claim.*—In a screw plate, the chaser C, gibs D and E, and set screws D<sup>1</sup> and E<sup>1</sup>, or their equivalents, in combination, constructed and operating substantially as described and for the uses and purposes mentioned.

**67,397.**—WM. K. BACALL, Boston, Mass.—*Bedstead*.—August 6, 1867.—The bedstead is folded up into a case, the bottom forming the front of the case.

*Claim.*—The folding bedstead, or combination of the head frame, the door part B, and the auxiliary frame E, arranged and connected together and with the case A, substantially as specified.

Also, the combination of the legged supporters C and F, or their equivalent, with the door part B and the auxiliary frame E, arranged and connected together and with the case A, as specified.

Also, the combination of the head frame D, the door part B, the auxiliary frame E, and the supporters

C F, arranged and connected together and with the case A, substantially as described.

**67,398.**—LEONARD BAILEY, Boston, Mass.—*Bench Plane*.—August 6, 1867.—The upper (iron) section is adjustable to the lower (wooden) one to compensate for wear. The plane iron is clamped by a lever plate fulcrumed by a screw entering the stock. The lower end of the plate rests upon the cap iron, and the upper has a cam lever operating on the same. The arm of the adjusting lever enters a cavity in the cap iron, and its bifurcate arm embraces a grooved nut, by which it is moved to adjust the iron.

*Claim.*—The arrangement of the two parts A B of the stock together and with slots *c d* and clamp screws *a b*, as described, whereby such parts may be adjusted with reference to each and clamped together, as and for the purpose specified.

Also, the combination as well as the arrangement of the adjusting screw F and nut E, or the equivalent thereof, and the bent lever with the plane stock.

Also, the arrangement of the hole *k* in the cap iron, to operate with the adjusting lever, combined with the screw and nut, or the equivalent thereof, and applied to the stock, as set forth.

**67,399.**—W. W. BALL, Charlestown, Ill.—*Tuyere*.—August 6, 1867.—The air chamber has a central hat-shaped foraminated diaphragm, which is adjustable vertically by inclines beneath its edges which rest on projections of the case, so that a partial rotation of the diaphragm raises or lowers it to adjust the air-opening between the diaphragm and the upper plate of the air chamber. The valve of the lower plate is closed by the blast, but otherwise swings open and allows the fall of ashes and a current of air to the fire.

*Claim.*—First, the combination of the blast tube A, valve *d*, and air chamber, all constructed and arranged as described.

Second, the disk E, having the steps *e' e' e'*, operating in connection with the projections *f f f* on the inner surface of the plate C, and having the series of holes around its margin, and the square central aperture *c*, substantially as and for the purpose specified.

**67,400.**—THOMAS L. BAYLIES and GEORGE W. WOOD, Richmond, Ind.—*Inking Apparatus for Printing in Colors*.—August 6, 1867.—An oscillating frame carries a series of rollers which are brought in contact with fountain rollers of a series of fountains, each carrying different colored ink; and the ink is communicated by another series of rollers to the segmental rollers, which in turn communicate the ink to a set of rollers common to all, and by which the type is inked in strips of various colors.

*Claim.*—First, two or more separate continuous inking fountains B B<sup>1</sup> B<sup>2</sup>, in combination with two or more intermediate adjustable sectional rollers I I<sup>1</sup> I<sup>2</sup> and other distributing rollers, by which the ink of different colors is transferred from the fountains to, and properly arranged in bands upon, a common roller, substantially as set forth.

Second, the combination of two or more adjustable sectional inking cylinders with the soft intermediate roller K and the hard roller L, substantially as set forth.

Third, the arrangement of two or more sets of adjustable sectional inking cylinders in relation to each other and to the roller to which they transfer their colors, substantially as set forth.

Fourth, the combination of the distributing rollers, the transferring rollers, and adjustable inking cylinders with the roller K, substantially as set forth.

Fifth, in combination with an elastic roller, so arranging the boxes of the latter that they may be locked so as to regulate the play thereof, substantially as set forth.

Sixth, the arrangement of the frame G, rack O<sup>1</sup>, pinion N, pulleys N<sup>1</sup>, *h*, *h*<sup>1</sup>, and *h*<sup>2</sup>, and the connecting belts, substantially as and for the purpose set forth.

**67,401.**—WILSON BOHANNAN, Brooklyn, N. Y.—*Padlocks, &c.*—August 6, 1867.—The straight edge of the safety guard approaches and recedes from the notches in the sliders in a plane parallel to the edges thereof, entering the notches squarely, notwithstanding that the slides and their bearing plate are moved in a circular path.

*Claim.*—First, in combination with an oscillating



plate C to which the notched slides *e* are suitably applied, the parallel moving plate or knife *f* attached to said plate or guide, substantially as described.

Second, the combination of the plate or knife *f*, slides *e*, and oscillating plate C with a vibrating lever arm which is guided and controlled by a fixed stud *j* or its equivalent, substantially as described.

**67,402.**—C. F. BOSWORTH, Milford, Conn.—*Plate Lifter*.—August 6, 1867.—The jaws turn on the handle to which they are attached until they are expanded sufficiently to grasp the warm plate to be lifted.

*Claim.*—The combination of the two jaws A and B with their respective levers D arranged upon a handle C, so as to operate in the manner herein described.

**67,403.**—JOHN R. BRIDGES, Pittsburg, Pa., assignor to himself and G. O. FAUCETT, same place.—*Machine for Making Nuts*.—August 6, 1867.—The nuts are made from a heated bar. The points on the end of the punches spread the iron to make perfect corners when pressed. The nut bears on the face of the die, and projections press down the corners of the nut. A stripping bar checks the backward motion of the dies, and strips the nut from the punch. The cutters carry the bar from one side of the headers to the other. The guides direct the iron to the dies, and form two sides of the nut when punched and pressed.

*Claim.*—First, the annular semi-cylindrical or semi-oval recess on the face of the square die E, for forming a raised bead around the eye of the nut, all as described and represented in Fig. 5 of the drawings.

Second, the bar G, provided with pins *a a* and *c c*, in combination with the die E and standard I, for the purpose hereinbefore described.

Third, the cutter D D, when so arranged in a double operating nut machine as to pass the nut bar, from which the nut blank has been severed, to the proper position for feeding into the other end of the machine, substantially as hereinbefore described.

Fourth, the combination of the blocks J J<sup>1</sup>, bottom plate H, cutter D, and bar G, for forming a matrix or nut box to enclose the nut while it is being pressed and punched, and which shall open to release the nut on the withdrawal of the pressing die.

**67,404.**—PITTMAN BRIGHT, Philadelphia, Pa.—*Rolling Mill*.—August 6, 1867.—The two shafts have enlargements and permanent and adjustable collars forming rolls, that are arranged to make hoop or bar iron of various widths, dispensing with grooved rolls. Adjustable collars, one of them corrugated, form a lodgment for water to prevent undue expansion.

*Claim.*—First, the shaft D, its collar *i*, enlargement *f*, and adjustable collar G, in combination with the shaft F, its collar *i*, enlargement *f*<sup>1</sup>, and adjustable collar G<sup>1</sup>, the whole being constructed and arranged substantially as and for the purpose herein set forth.

Second, the collar G or G<sup>1</sup>, composed of the ring *m*, with its corrugated or notched end, and the ring *n*, with its ring *q*.

**67,405.**—JOHN BROWN, New York, N. Y., assignor to WILLIAM P. BROWN, same place.—*Umbrella*.—August 6, 1867.—The fabric is woven by a loom, with a jacquard to form the stuff to receive the ribs and fit the frame.

*Claim.*—A woven umbrella or parasol cover having pockets for the ribs woven into or with the web of which it is formed, essentially as herein set forth.

**67,406.**—JULIA P. BROWN, Boston, Mass.—*Folding Table*.—August 6, 1867.—The legs are hinged to the metallic shoes, and bolted at their point of connection. Stretchers connect the legs.

*Claim.*—The combination and arrangement of the cammed shoes and the spring catches, the table top, and the two sets of legs, arranged and applied together and to the table top, substantially as specified, such shoes being made with holes or recesses in their sides to receive the hooks of the catches, as set forth.

**67,407.**—SARAH FRANCES BROWN, Savannah, Ga., assignor to CHARLES W. BRUNNER, same place.—*Marker for Sewing Machines*.—August 6, 1867.—The width of tuck is marked before sewing by a pencil, which is adjustable in a guide frame.

*Claim.*—First, the adjustable bar A, in combination

with the pin C and tube D, all made and operating substantially as and for the purpose herein shown and described.

Second, the toothed pin C and spring E, when arranged as described, for the purpose of holding the tubular pencil holder D on the adjustable plate A in any desired angle of inclination, as set forth.

Third, the spring E, when arranged on the side of the perforated tube D, and provided with a pointed or sharpened end, as set forth, for the purpose of holding the pencil in the tube and for fitting the same tube to larger and smaller pencils, as set forth.

Fourth, the plate A, pin C, and spring E, in combination with the tube D and spring E, all made and operating substantially as and for the purpose herein shown and described.

**67,408.**—RICHARD BUSH, South Brooklyn, N. Y.—*Soap Holder*.—August 6, 1867.—The receptacle is hung against the wall. Its perforated bottom is oscillated, and supported by a spring.

*Claim.*—First, the soap holder with the revolving bottom, substantially in the manner and for the purpose set forth.

The whole device as an article of manufacture, when constructed substantially in the manner and for the purposes set forth and described.

**67,409.**—L. A. BUTTS, Ripon, Wis.—*Seed Planter*.—August 6, 1867.—The elevating seed cups are open at the top and on one side; the bottom inclining to the open side. The cups are rotated with their open sides against a plate in the seed hopper by a rope attached to the ground, running over a pulley on the seed shaft. The open cups, after surmounting the plate in the seed hopper, discharge the seed through a tube to the ground.

*Claim.*—The hoppers J and L, seed distributors *a* and *l*, seed cups *e* and *o*, shaft W, driving wheel V, pulleys *p p*, conductor *q*, lever U, guide pins *r*, guides *u* and rope K, in combination with the vertically adjustable frame, which carries the seeding devices, all arranged and operating as set forth.

**67,410.**—S. G. CABELL, Quincy, Ill.—*Telegraphic Instrument*.—August 6, 1867.—The two helices are wound on separate tubes, and enclosed by a common cylindrical case. The magnets may be connected to operate in mison, the armature lever of the smaller one which is connected with the local circuit acting as a striker. This connection of the two magnets is made by a sliding plate between them, which has a metallic ring connecting their two inner tubes when desired.

*Claim.*—First, operating a telegraph instrument by means of a magnet, consisting of a helix interposed between two concentric pieces of soft iron, the inner forming a central core, and the outer one a covering for the helix, substantially as described.

Second, the combination of the electro-magnets A and B, with the connecting piece *h*, arranged so that by moving it to and fro, the magnets may be connected or disconnected at will, substantially as described.

Third, the combination of the magnet A, with its vibrating arm I, and the magnet B, with its vibrating G, when arranged to form one instrument, and to operate as and for the purposes herein set forth.

**67,411.**—GOUVERNEUR CAR, New York, N. Y.—*Razor*.—August 6, 1867.—The gauge passes over the face before the razor to stretch the skin, and present the razor at proper inclination.

*Claim.*—First, the combination of a razor blade with the guiding gauge, substantially as and for the purpose specified.

Second, the combination of the razor blade and guiding gauge by means of a hinge joint and holding mechanism, substantially as and for the purpose set forth.

Third, the combination of the two guiding gauges, or two-part ease, with the razor blade, by means of a three-part hinge, or the equivalent thereof, substantially as and for the purpose set forth.

Fourth, the combination of the razor blade, the stock to which it is hinged, the guiding gauge, the connecting hinge and the holding mechanism, substantially as and for the purpose specified.



**67,412.**—HENRY CASH, Newport, Ky.—*Sash Pulley*.—August 6, 1867.—The grooved pulley wheel, which is pivoted in the slotted block, the bosses on which engage in the recesses in the back of the casing to which the block is screwed.

*Claim.*—As a new article of manufacture the combination of the flat plate C, pivot G and sheave F, the said plate being provided with bosses H, and all constructed and adapted to operate as and for the purposes described.

**67,413.**—NATHAN L. CHAPPELL, New York, N. Y., assignor to THE CHAPPELL PATENT STEAM VALVELESS AND BILGE EJECTOR MANUFACTURING AND FURNISHING COMPANY.—New York, N. Y.—*Steam Ejector*.—August 6, 1867.—The steam passes through a pipe contained in a frusto-conical chamber into which the water is secured, and ends slightly below its throat, which communicates with a chamber above from which the exit pipe passes.

*Claim.*—The inlet chamber, B, constructed with a contracted throat *a*, and arranged with reference to the steam inlet pipe D and chamber C, substantially as herein set forth for the purpose specified.

**67,414.**—AARON W. CHEEVER, Lynn, Mass.—*Last*.—August 6, 1867.—A portion of the draft line from near the heel to the ball is straight on the outside; the remainder of the line toward the toe and heel respectively is of a gradual curve. The intention is to produce a boot that will not work on the foot.

*Claim.*—The block last A B, constructed substantially as above described and for the purpose set forth.

Also, making the draft line straight on the exterior surface of the last from a point near the heel to a point near the ball of the foot, substantially as and for the purpose set forth.

Also, forming a projection *g* on the toe end of the block of the last, substantially as and for the purpose described.

Also, increasing the width and reducing the length of the groove in the last proper, as and for the purposes specified.

**67,415.**—EDWIN COX and A. W. POTTER, Monroeville, Wis.—*Stove Pipe Damper*.—August 6, 1867.—A series of adjustable bell-formed dampers, having open taps, are adjustably suspended in the pipe above an annular horizontal plate running around the side.

*Claim.*—First, the shoulder pieces and pins for connecting the segments of a damper, substantially as shown and described.

Second, the collar or shoulder K for supporting the damper, in combination with a damper in divider.

Third, the thumb latch attached to the end of the lever for opening and closing the damper without bringing the hand of the operator in contact with heated metal, substantially as shown and described.

Fourth, the mode of securing the thumb latch and lever by means of pins, substantially as described.

Fifth, combination of parts forming an improved damper, substantially as shown and described.

**67,416.**—Cancelled.

**67,417.**—F. A. CRAMBLITT, Petroleum Centre, Pa., assignor to himself and JOS. R. DICKEY.—*Pump Piston*.—August 6, 1867.—The two ends of the piston are separate, so that they may have sufficient vertical play to admit of the outward expansion of the packing sleeve. Room is left between the half pistons, allowing the oil to pass out, and by its pressure to slightly expand the flexible sleeve, making it press snugly against the pump barrel in which it is worked.

*Claim.*—First, making in separate parts the two ends of a piston for operating pumps in oil, salt, artesian, or other deep wells, and attaching such parts to the piston rod in such a way that one or both may have sufficient vertical play on the rod to admit of the outward expansion or bulging of the piston-packing, substantially as and for the purposes described.

Second, filling the contiguous ends of such half-piston to each other, so as to leave room between them for the oil or water in the piston to pass out against and expand or bulge the piston-packing, substantially as and for the purposes above set forth.

Third, packing a piston for deep well pumps by a

packing sleeve of leather or other flexible material, in such a way that the ends of such sleeve shall be securely fastened beneath the outer surface of the upper and lower ends of such piston, so as to make therewith tight working joints, substantially in the manner and for the purposes above specified.

Fourth, making the half-pistons described counterparts of each other, so as to secure a reversible piston, substantially as and for the purposes described.

**67,418.**—HENRY M. CURTIS, Ypsilanti, Mich.—*Buggy Top Joint and Fastening*.—August 6, 1867.—The top is sustained by the usual jointed brace, and spread by additional braces of similar construction.

*Claim.*—The main and counter braces A and C, when combined or joined together, and operating conjointly with the carriage tops, substantially as and for the purpose set forth.

**67,419.**—WM. A. DEVON, Richmond, N. Y.—*Apparatus for Raising and Lowering Ships' Boats*.—August 6, 1867; antedated July 23, 1867.—Improvement on his patent, September 11, 1866, (No. 57,877.) The ropes of the end tackles are rove through a block connected with an intermediate central davit, and their ends bite on a rotating barrel to facilitate raising or lowering boats by the conjoint connections to the end tackles.

*Claim.*—The combination of the davit C with its cross-bar or beam E and blocks D G G, arranged for operation together, in connection with the ropes of the two end tackles and swinging from a common center, substantially as and for the purposes herein set forth.

**67,420.**—HENRY DOEBELE, Philo, Ohio, assignor to himself and PETER KRIER, same place.—*Bed Bottom*.—August 6, 1867.—The slats are fastened in two long wooden strips, which are placed on springs secured to the side rails.

*Claim.*—First, securing the ends of the slats A A between two plates or strips B and E, and connecting the latter by means of metal elbow pieces F F, and holding the whole bottom together by means of screws C, substantially as set forth.

Second, combining the above bed bottom with a bedstead, in which are rails C and springs D for the reception of the bottom, so that the latter can be placed upon the springs and be securely held in the bedstead without being fastened to the same, as set forth.

**67,421.**—GEORGE DUNHAM, Unionville, Conn.—*Machine for Making Nuts*.—August 6, 1867.—Improvement on his patent, June 27, 1865. After the blank is sheared off it is conducted to the conical presser. The nut is then carried between the anvil and the three converging hammers, after which it is punched. The burr is cleared by a punch. The nut is then pressed to even the top and bottom.

*Claim.*—First, arranging the cams and hammers K and K', so that the latter shall act in the double capacity of hammering the blank and to push it to the punch *q*, and from thence in front of the pusher S, substantially as described.

Second, constructing and arranging the cams and the hammers K K' K'', so that the latter shall act in the double capacity to hammer the blank and hold it until the punch X has entered the same, substantially in the manner described.

Third, the combination of the lever T<sup>2</sup> and adjusting screws *a b* with the slide M, substantially as and for the purpose described.

Fourth, the employment of the yielding cam U, in combination with the hammer K, substantially as described.

Fifth, the employment of the lifter Q for lifting the hammer K, while it is pushing the nut off from the die O, substantially as described.

Sixth, the combination of the anvil block J with hammers K K K'', punch X, and die O, substantially as and for the purpose described.

**67,422.**—C. DYER, Jr., and ELLIS DRAKE, Stoughton, Mass.—*Boot and Shoe Heel*.—August 6, 1867.—A series of rubber studs are first secured to a metallic plate with projections below and are then attached to the treading surface of the heel by a screw engaging in a nut that has been made fast thereto.



*Claim.*—The elastic studs F in the perforated plate C, clamped by their heads G between such plate and the treading surface B of the boot heel by means of the center screw D fitting into the nut E upon the shank I, all constructed and arranged as herein set forth for the purpose specified.

**67,423.**—PETER T. ELTING, Buffalo, N. Y.—*Smut Machine.*—August 6, 1867.—The rotating stone has a stationary brush with a central feed opening for admission of grain and a discharge over the periphery of the head. The concave screen has a corresponding convex brush engaged therewith. The air is sucked in by the fan through the perforated outer shell and passes through the falling grain.

*Claim.*—First, the combination and arrangement of the revolving stone or iron head C with the stationary brush D, substantially as described.

Second, the concave screen  $h^2$  and brush  $l$ , arranged and operating substantially as described.

Third, the air passages O and O', so arranged with reference to the conical flue  $n^3$  and the fan that a current of external air will be drawn in by the action of the fan and pass through the descending sheet of grain, for the purpose and substantially as described.

Fourth, the double offset  $l'V$  in the annular leg, for the purpose and substantially as herein described.

**67,424.**—JAMES K. ELY and ROBERT COOK, Franklin, Ohio.—*Portable Percussion Cap Primer.*—August 6, 1867.—The caps are placed within a capper on their closed ends and the cover inserted in the grooves of the box, covering all the caps except the lower one, which is retained by the spring. When the exposed cap is placed upon the nipple the capper is drawn laterally, causing the cap to deflect the spring and liberate itself.

*Claim.*—The combination of the spring  $c$ , orifice  $f$ , and lip  $n$  with the guides or flanges  $o o$  and box  $b$  in which the caps are fed forward to the delivery orifice by their gravity, substantially as and for the purpose specified.

**67,425.**—SHELDON B. EVERITT, Ansonia, Conn., assignor by mesne assignments to FREDERICK G. NIEDRINGHAUS, St. Louis, Mo.—*Tea Kettle and other Vessels.*—August 6, 1867.—Explained by the claim.

*Claim.*—A sheet-metal kettle, sauce pan, or similar deep vessel, whose sides and bottom are not only made seamless of one piece of metal, but which is also provided with a flanged bottom or pit A whose depth does not exceed that of the sides of the vessel, substantially as herein set forth.

**67,426.**—FRIEND P. FLETCHER and VIRGIL W. BLANCHARD, Bridgeport, Vt.—*Converting Cast Iron into Steel and Malleable Iron.*—August 6, 1867.—As the stream of melted ore leaves the furnace a jet of steam, or air, or both combined, is brought into contact with it in the bath. The force of the opposing current reduces the molten metal to globules while the heat of the metal decomposes the steam or air into gaseous elements, bringing them in contact with the globules of melted metal.

*Claim.*—First, dispersing or reducing the molten metal to an atomic condition in the presence of the gaseous element or elements contained in the bath, substantially as and for the purpose specified.

Second, the forcible dispersion of a stream of molten metal into a globular or atomic condition when it comes in contact with a jet or jets of a gaseous element or elements, substantially as and for the purpose specified.

Third, the introduction of a secondary jet or jets of a gaseous element or elements into the bath above, below or beyond the primary one, substantially as and for the purpose specified.

Fourth, the use of an inclined plane, or its equivalent, within the bath, in combination with said bath, as and for the purpose specified.

Fifth, a secondary furnace, or its equivalent, for the purpose of heating the gaseous elements, substantially as and for the purpose specified.

Sixth, a gate or valve in the main trough or channel, in combination with said trough and the shallow channel and bath, substantially as and for the purpose specified.

Seventh, the employment or use of the necessary valves in the pipes leading from the boiler and re-

ceiver to the bath, for the purpose of regulating the flow of gaseous element or elements into said bath, substantially as and for the purpose specified.

Eighth, the use of any gaseous element or elements beside those contained in air or steam, used and applied substantially as and for the purpose specified.

**67,427.**—P. GAUGHIRAN and L. SWEENEY, San Francisco, Cal.—*Preserving Eggs.*—August 6, 1867. The eggs are dipped in grease and then rolled in powdered charcoal.

*Claim.*—Treating eggs for preservation, substantially in the manner as herein described.

**67,428.**—GEORGE L. GERARD, New Haven, Conn.—*Buckle.*—August 6, 1867.—The rod is bent into an S-shape. The strap is secured to the middle portion and its loose end attached by passing it alternately below the outer sections and above the middle one.

*Claim.*—The herein described buckle as an article of manufacture.

**67,429.**—T. E. HARRIS, Green Bay, Wis.—*Punching Apparatus.*—August 6, 1867.—The sheet is cut and punched simultaneously by the oscillating center and adjustable punches.

*Claim.*—The improved punching apparatus, substantially as herein described and for the purpose set forth.

**67,430.**—SAMUEL L. HEISEY, West Donegal, Pa.—*Cultivator.*—August 6, 1867.—The tongue is pivoted with the hammer butt, and when the butt of the tongue is raised by the lever out of the recess of the semi-circular slide plate it will swing about one-quarter round before turning the cultivator.

*Claim.*—The arrangement of the sliding plate B with its guide  $c$ , recess  $b$ , in combination with the lever D, and springs S  $x$ , all arranged and operating substantially in the manner and for the purpose specified.

**67,431.**—THEODORE P. HOWELL and CHARLES P. OLIVER, Essex county, N. J.—*Machine for Stretching Hides.*—August 6, 1867.—The hide is stretched over the top bar and tacked to the bar below and to the rear post, the neck being attached to the knee-jointed brace in front. The set screws passing through the sill engage and draw down the bottom bar and brace, stretching the hide.

*Claim.*—A machine for stretching hides or skins, having the bar  $a$ , posts  $b c$  and  $d$ , bar  $e$ , screw  $f$  and  $f'$ , beam  $g$ , and knee  $h$ , arranged, combined and operating for the purposes and in the manner herein above described.

**67,432.**—S. W. HUNTINGTON, Augusta, Maine.—*Inner Sole for Boots and Shoes.*—August 6, 1867.—To the woolen insole is attached a thin layer of lead, to make it waterproof.

*Claim.*—The improved inner sole for boots and shoes as composed of the woolen body  $a$  in combination with the sheet  $b$  of lead, in the manner and for the purpose as described.

**67,433.**—ORRIN H. INGRAM and DONALD KENNEDY, West Ean Claire, Wis.—*Lighter for Vessels.*—August 6, 1867.—The lighters are attached to the boat sides by transverse braced beams and bolts extending through the sides.

*Claim.*—Removably attaching lighters B to the hull of a boat A, substantially as herein shown and described and for the purpose set forth.

**67,434.**—INSLEY JEWETT, Boston, Mass., assignor to himself and JOHN P. JEWETT, Hyde Park, Mass.—*Knife Cleaner.*—August 6, 1867.—The knife is passed through a slot in the face plate and between leather lips into the box containing the abradant. The leather is backed by rubber, and on one side has a metallic plate and a set screw to regulate pressure.

*Claim.*—The combination and arrangement of the strips of leather E F, the pieces of india-rubber C, and the compression screw  $e$ , or its equivalent, with the emery receptacle formed of the plates A B I I, as described.

Also, the combination of the slotted mouth piece



G with the strips E F, the pieces of rubber C D, and the plates A B I I, arranged as specified.

**67,435.**—HENRY H. JOHNSON, New Haven, Conn.—*Broiler*.—August 6, 1867.—The wire is convoluted to support the meat, has shoulders at various heights for supporting it on the stove plate and a handle above by which it is held.

*Claim.*—A broiler A, constructed with an arm C, provided with one or more shoulders *a b c*, and so as to operate substantially as herein set forth.

**67,436.**—PHILIP KRAHER, Cincinnati, Ohio.—*Adjustable Bolster for Mattresses*.—August 6, 1867.—The upper end of the bolster is elevated by a curved, perforated, adjustable bar, which is engaged by spring bolts through boxes attached to the frame, which are operated by ringed cords attached thereto.

*Claim.*—First, the adjustable bolster B, operating on hinge I, with the segment or plate C, for the purpose as herein set forth.

Second, the cord G, the pulley F, the pins E, the staples or frames D, the springs C, all made and combined that both sides of the bolster may be operated at the same time.

**67,437.**—GEO. A. KEENE, Newburyport, Mass.—*Feathering Paddle Wheel*.—August 6, 1867.—Two horizontal bars connect transversely the radial arms of the paddle wheel. The floats having wings unequal in area and weight are pivoted into the bars; a stop is attached to limit the rotary motion of the float upon its pivots.

*Claim.*—First, the arrangement in a paddle wheel of independent floats, having each one wing preponderating in area and weight, pivoted to cross-bars D and E, so as to allow a reciprocating rotary motion through a limited arc, substantially as and for the purpose described.

Second, the further arrangement of stop *h*, in connection with floats having such a preponderating side, and pivoted to cross-bars D and E, substantially as described, and for the purpose of limiting such reciprocating rotary motion.

**67,438.**—SAMUEL LEMON, Jr., Hoboken, N. J., assignor to himself and CHARLES WOODRUFF, Hunter's Point, N. Y.—*Lubricator*.—August 6, 1867.—The globe is attached to its supporting tube by the nut. The tube has a seat for a valve upon a stem sliding in the cap.

*Claim.*—The combination and arrangement of the globe A, tube B, nut *e*, rod *c*, with valve F and caps D D', substantially as described for the purpose specified.

**67,439.**—WM. O. LESLIE, Philadelphia, Pa.—*Brick Machine*.—August 6, 1867.—The molds are in a frame reciprocated beneath the pug mill by an eccentric. The plunger bottoms are of iron with felt covered faces, and are raised by projections on the track, first to press and then to eject the bricks.

*Claim.*—First, the mold carriage *u*, constructed and operating substantially as shown and described.

Second, the pressure plate *l*, constructed and operating substantially as shown and described.

Third, the track *z*, constructed and operating substantially as shown and described.

Fourth, making the under side of the pressure plate *l* convex, and the upper part of the mold carriage *u* correspondingly concave, substantially as shown and described.

**67,440.**—CHARLES MANHEIM, New York, N. Y., assignor to himself and E. L. PERRY, same place.—*Securing Rubber Rolls to their Shafts*.—August 6, 1867.—Strips of duck are coated with caoutchouc and rolled heavily. The strips are then wound spirally on the shaft. The packing is then coated with rubber and the whole vulcanized.

*Claim.*—A rubber roll having its inner packing of cloth and rubber, wound spirally upon and vulcanized to the shaft, together with its coating, as herein set forth, whereby the rubber is prevented from turning upon the shaft or packing, substantially as described and for the purpose specified.

**67,441.**—ALBURTIS MARTIN, Oquawka, Ill., assignor to himself and J. R. MARTIN.—*Corn Cultiva-*

*tor*.—August 6, 1867; antedated July 27, 1867.—The shovel-plow beams are attached to a movable frame that is moved laterally by the lever when the driver is in his seat, and by the crank when he is walking.

*Claim.*—First, the plow frame C, when supported by the rollers *m* and *n*, and the arrangement with reference to the frame A, axle B, and the plow beams D and E, in the manner substantially as described and for the purpose specified.

Second, the semi-circular cog wheel I, shaft Y, lever K, crank L, and bar P, in combination with the cog bar H attached to the frame C, substantially as described and for the purpose specified.

Third, the connecting piece *t*, in combination with the straps attached to the post F and the beam D, substantially as and for the purpose set forth.

**67,442.**—SAMUEL McDONALD, Cincinnati, Ohio.—*Bed Bottom*.—August 6, 1867.—The slats are supported on rods which are run through elastic loops connected to the rails.

*Claim.*—The supporting rods F and elastic loops E, sustained by either a firm or a yielding attachment to the bedstead, and operating substantially in the manner and for the purpose set forth.

**67,443.**—JAMES McLAUGHLIN and CHARLES W. JONES, Duncannon, Pa., assignors to themselves and WM. C. KING, same place.—*Railroad Switch*.—August 6, 1867.—The elastic rails on the main and side track are arranged for the wheels of the locomotive and cars, to spring the rails parallel with each other and thus connect them.

*Claim.*—An elastic self-acting railroad switch, arranged and operating substantially as herein described.

**67,444.**—H. S. MITCHELL and C. SEARCH, Hubersburg, Pa.—*Corn Planter*.—August 6, 1867.—Connecting with the reciprocating seed slide are removable center plates varied according to the distance of the hills and amount of seed, the ribs on the central plates engaging in grooves in the partition between the corn and fertilizer hoppers. The reciprocating rod operated by the slide has a star-shaped burr for agitating the fertilizer.

*Claim.*—First, the removable slide plate applied to and operating in connection with the reciprocating slide, substantially as and for the purpose described.

Second, the removable slide plate *I'*, provided with the rib or ridge *i*, arranged to work in a corresponding groove formed in the partition F, in the manner and for the purpose set forth.

Third, the arrangement of the levers N and rack bar O, in connection with the adjustable followers or coverers, substantially as described.

Fourth, the reciprocating rod *b*, provided with the star-shaped burr or head *c*, and adapted by the reciprocating slide I, in the manner and for the purpose described.

**67,445.**—DAVID JONES O'HARRA and CLARK BROWN THOMPSON, Empire City, Nevada.—*Furnace for Roasting Ores*.—August 6, 1867.—The lengthened oven has open ends and a flat top and bottom. It has furnaces at intervals along the sides. The ore is conveyed through it by forwarding blocks attached to an endless chain, which returns along a slide over the oven top.

*Claim.*—First, the combination and arrangement of the hinged circular plate E E', with the inclined oblique hoes *a a a a*, all constructed as shown and attached to the endless chain D, substantially as and for the purpose specified.

Second, the arrangement of a series of fire chambers G G along the sides of the ore chamber of a desulphurizing furnace, at intervals of about twenty-five feet, substantially in the manner and for the purpose set forth.

**67,446.**—DAVID OLIVER, Oxford, Ohio.—*Fence Post*.—August 6, 1867.—The two posts that secure the rails on each side are attached to an anchor-stone by a link, to which they are tightly wedged.

*Claim.*—A fence post, consisting of two uprights A A firmly attached to a stone B by means of a link G, substantially as described.



**67,447.**—ALFRED PARAF, Thann, France.—*Manufacture of Ammonia*.—August 6, 1867.—The "ammoniacal liquor" from gas manufacture is distilled and cooled, and the vapor passed through charcoal to a condensing worm, from which it flows into a receiver.

*Claim.*—The process of preparing purified ammonia from ammoniacal stock by distillation, and treating the products by charcoal, substantially as hereinbefore set forth.

**67,448.**—CHARLES B. PAYNE, Bloomington, Ill.—*Trace Buckle*.—August 6, 1867.—The short part of the trace has rivets whose projecting flanged heads engage in the slots of the forwardly and backwardly projecting plates. A button prevents detachment.

*Claim.*—The combination of the buckle A B S, lock E, trace F G, having headed bolts P, arranged to pass through slots D C, and operating substantially as set forth.

**67,449.**—G. W. PEABODY, East Hampton, and O. L. COWLES, Westfield, Mass.—*Machine for Dressing and Renovating Feathers*.—August 6, 1867.—The feathers are renovated by the action of steam admitted among them and are subsequently dried in the same machine. The devices have reference to the regulation and distribution of the supply and removing the condensed steam.

*Claim.*—First, the use, in combination with a steam cylinder M, of a feather-dressing machine, of one or more similar valve seats, each having several steam passages radiating therefrom and opening into the space L, substantially as described.

Second, operating all the steam valves in the cylinder M, by means of a single valve rod arranged within the cylinder, substantially as and for the purposes set forth.

Third, the combined valve key and steam plug, constructed and operating substantially as described.

Fourth, the arrangement of the drip pipes, placed as described, in combination with the steam cylinder and hollow-flanged bearings, substantially as set forth.

**67,450.**—HENRY E. POND, Franklin, Mass.—*Artificial Fertilizer*.—August 6, 1867.—To meadow muck, 1,800 lbs., add sulphuric acid, 20 lbs.; to which, after standing, add lime, 15 lbs.; potash, 50 lbs.; salt, 80 lbs.; nitrate of soda, 100 lbs., and superphosphate of lime, 100 lbs.

*Claim.*—The new fertilizer, substantially as before described.

**67,451.**—DANIEL R. PRATT, Worcester, Mass., assignor to JOHN P. VERREE, WM. A. MITCHELL, and J. MARCUS RICE.—*Splicing Railroad Rails*.—August 6, 1867.—The fish plates are connected by bolts which pass through a chamber containing springs against which the washer rests.

*Claim.*—First, the method and arrangement of joining the ends of two railroad rails by the means of springs F, cups E, washers D, bolts B, and nuts C, in combination with two splicing plates A A, made in the manner substantially as described and for the purposes herein set forth.

Second, the construction and arrangement of springs combined with the wooden splicing plates, as shown in Fig. 2, as and for the purposes herein set forth.

**67,452.**—JOSHUA R. PURDY and D. C. BARGER, Peekskill, N. Y.—*Boiler*.—August 6, 1867.—The kettle is placed in an open-bottomed shell of similar shape, but of size sufficient to allow the caloric current circulation between them. A valve in the kettle lid allows escape of steam beneath the lid of the shell.

*Claim.*—First, the arrangement and combination of the outer pot A and the inner pot B, with legs L L, and projections r r, substantially as set forth.

Second, the double cover C c, attached together by the hooks or standards s s, and eyes e e, or some equivalent device.

Third, the valve V, placed in the cover of the inner pot B, for the purpose of allowing the escape of steam and odor.

Fourth, the arrangement and combination of the pots A and B, covers G and C, substantially as and for the purposes set forth.

**67,453.**—JOHN F. RIGGS and WM. M. ALBIN, St. Joseph, Mo.—*Washing Machine*.—August 6, 1867.—The power is applied to the crank shaft and communicated to the reciprocating plunger, which is adjustable to suit the quantity of clothes within the suds box. When moving the machine, the lower sections of the fore legs are folded up and the balance wheel acts as a moving wheel.

*Claim.*—First, operating the plunger E, through the medium of the pivoted frame C, connecting rod D, and crank e, of the shaft d, substantially in the manner and for the purpose set forth.

Second, the wheel B, in combination with the legs a a, formed of two parts, connected by a joint or hinge b, substantially as and for the purpose specified.

**67,454.**—S. E. ROBBINS, Boston, Mass., assignor to ELMER TOWNSEND, same place.—*Platform Scale*.—August 6, 1867.—Improvement on the patent of R. F. Wolcott, November 1, 1859. The knife-edge bearings upon the concave seats give nice adjustment, while preventing slipping of the parts in contact.

*Claim.*—The construction of the knife-edge bearings throughout the scale, with concave edges fitting upon the convex surfaces, as and for the purpose substantially as set forth.

**67,455.**—R. M. RUSSELL, New York, N. Y., assignor to GEORGE W. NORRIS, Baltimore, Md.—*Disintegrating Flax, Hemp, and other Fibrous Plants*.—August 6, 1867.—The fibrous material, after treatment by steam and compressed air or gas, as stated, is treated in a solution of lime, 4, soda, 5, and salt, 2½.

*Claim.*—First, the process of disintegrating fibrous substances, substantially as herein specified, that is to say, by subjecting the said substances, while in a boiler or other suitable vessel, to the action of steam or superheated steam, followed by cold atmospheric air or carbonic acid gas, or both together, producing results substantially as herein specified.

Second, treating the substantially disintegrated mass, while in the disintegrating boiler or other vessel, with the chemical agents herein specified, or their equivalents, in substantially the manner herein specified.

**67,456.**—ELIAS SEWARD, Hamilton, Ohio.—*Plow*.—August 6, 1867.—The convex shoe, with its broad, curved shank, makes a double mold-board. It is used in place of a shovel plow with sufficient retention in the point to steady the plow and with a broad breast to pulverize the soil.

*Claim.*—The self-adjusting plow B, made with the convex shoe C, having the angular horizontal base d d e e, and curved receding shank h, as a new article of manufacture, constructed and operating in the manner and for the purpose substantially as described.

**67,457.**—JOSEPH SHOLL, Burlington, N. J.—*Furnace*.—August 6, 1867.—The fire-box is inclosed in an air chamber; heated air from the latter is conducted to those parts of the oven not heated directly by the caloric current from the fire. A flue conducts the heated air to the fireplace after its passage round the oven.

*Claim.*—First, the combination of a boiler or oven with a fire-box inclosed in an air chamber, and a flue or passage through which heated air from the said chamber is caused to traverse in contact with those parts of the boiler not heated directly by the products of combustion from the fireplace, all substantially as and for the purpose described.

Second, the combination of the above and a flue for conveying the air after its passage round the boiler or oven to the fireplace.

**67,458.**—G. D. SPOONER, Rutland, Vt., and L. N. JOHNSON, Brandon, Vt.—*Carpenter's Plane*.—August 6, 1867.—The bit is secured by a set screw to a cross-head which is adjusted by a thumb-screw in a slotted plate fastened to the stock.

*Claim.*—The sliding cross-head C, provided with shoulders b, which bear against the inner surface of the plate B, said cross-head being made to receive the set screw c, and the thumb-screw E, which catches in a forked lug d, projecting from the inner surface of the fixed plate B, to operate in combination with the plane iron D, as and for the purpose described.



**67,459.**—JOHN D. STARRITT, Chicago, Ill.—*Clothes-line Reel.*—August 6, 1867.—The two sections of the box are hinged in the middle. The inner section is attached to the wall and has bearings for the spool shaft secured thereto, and a pivoted pawl that engages the ratchet wheel and arrests the retrograde motion of the spool.

*Claim.*—First, the combination of two-part box A B, with spools F, shaft K, and cord G, substantially as set forth.

Second, the combination of locks *r s*, shaft K, and two-part box A B, arranged to hold said shaft K, when said box A B is shut, and loosen it when open, as set forth.

Third, the ratchet wheel *m*, in combination with pawl P, spools F, and catch, as described.

**67,460.**—JOHN STOWELL, Charlestown, Mass.—*Safety Cock.*—August 6, 1867.—The upper end of the stem rests against the fusible, metallic plug, which melts when the heat reaches a certain point.

*Claim.*—The safety cock, made substantially as described, viz., of the body A, the valve and its seat, the fusible plug, the auxiliary stem and its screws, or the equivalents thereof, the whole being as and for the purpose specified.

**67,461.**—SAMUEL TAYLOR, Boston, Mass.—*Dust Brush.*—August 6, 1867.—The bristles of the central portion of the brush are set in bunches, but the edge of the head is rabbeted to receive a continuous line of bristles attached by melted pitch and a covering strip.

*Claim.*—First, as a new article of manufacture the floor brush or duster formed in its interior of knots of bristles and edged with a continuous sheet of bristles, substantially as and for the purpose described.

Second, the method, substantially as described, of edging a brush with a continuous sheet of bristles.

**67,462.**—AUGUSTIN THOMA, AUGUSTIN F. THOMA, and ALBIN THOMA, Piqua, Ohio.—*Instrument for Setting Jewels.*—August 6, 1867.—The points of the forceps are spread by a wedge-shaped tool operated by a thumb nut to spread the bezel and extract the jewel.

*Claim.*—First, the spring jaws *b b*, in combination with the spreading rod *d* connected with the handles *a*, constructed and operating substantially as and for the purpose herein described.

Second, the notch *h* on the point of one of the jaws *b b'*, formed for the purpose herein specified.

**67,463.**—CHARLES E. THOMPSON, New Haven, Conn., assignor to himself and ORRIN W. SWIFT, same place.—*Capping and Nicking the Caps of Screw Heads.*—August 6, 1867.—The screw is clamped in the lathe and the cap held in a suitable end recess of the holder in contact with the screw head. The screw and holder are then rotated and the edge of the cap spun over the screw head by a burnisher.

*Claim.*—The method of capping the heads of screws and nicking the caps, substantially as herein described.

**67,464.**—R. S. TORREY, Bangor, Me.—*Tool Extractor.*—August 6, 1867.—The ratchet rods catch the tool and the action of raising presses the rods inward.

*Claim.*—The worm *a*, in combination with the cylinder A and the sliding arrangement B E C, in the manner and for the purpose described.

**67,465.**—L. A. TRIPP, Middletown, N. Y., assignor to himself and S. M. BOYD, same place.—*Window Shade Fixture.*—August 6, 1867.—The roller end has a diametric sliding bar which engages a notch in the ring to hold the roller to any desired adjustment, but which will run past the notches when rotating rapidly.

*Claim.*—The combination of the cap E, sliding bolt F, and notched ring G with each other, substantially as herein shown and described and for the purpose set forth.

**67,466.**—JOHN E. VAN RIPER, Dearborn, Mich.—*Harrow.*—August 6, 1867.—The frames consist of bent bars and are hinged together and attached to a jointed draw bar.

*Claim.*—First, the folding draft bar H constructed with hinges or other joints for the purpose described.

Second, the combination and arrangement of the three sections A B C, the link couplings I I and O O, &c., and the folding draft bar H, arranged substantially as described for the purpose designed.

**67,467.**—MANUEL J. VIEIRA, Mendota, Ill.—*Shampooing Mixture.*—August 6, 1867.—To be used without succeeding washing. It is composed of alcohol,  $7\frac{1}{2}$  oz.; soft water, 7 oz.; castor oil, 2 drms.; aqua ammonia, 2 oz.; perfume may be added.

*Claim.*—A composition of a liquid for use in shampooing the hair, compounded of the ingredients substantially as set forth.

**67,468.**—WM. E. WARNER, Newark, N. Y., and M. J. PALMER, Syracuse, N. Y., assignors to themselves and ARTHUR HOLMES.—*Car Coupling.*—August 6, 1867.—The draw head is divided horizontally, the upper sections being jointed and depressed by a spring. The claw of the coupling bar enters a longitudinal slot and takes over a projection of the lower section.

*Claim.*—The self-locking car coupling, constructed and operated substantially as described in the foregoing specifications.

**67,469.**—G. WATERS, Cincinnati, Ohio.—*Lubricator.*—August 6, 1867.—The stem is screwed into the cap and sustained by a jam nut. The globe is fitted hermetically into a socket of the stem by elastic packing.

*Claim.*—A lubricator consisting of the gas reservoir A attached to the stem D by means of the socket C and the elastic packing B, all constructed and arranged to operate as shown and described.

**67,470.**—THOMAS ALDRIDGE WESTON, Birmingham, England.—*Pulley.*—August 6, 1867.—The differential pulley has projections or wheels above the chain to prevent its disengagement from its gear.

*Claim.*—The aforesaid double chain wheel and endless chain combined in the manner described and represented in the drawing.

**67,471.**—NORMAN W. WHEELER, Brooklyn, N. Y.—*Lighted Ventilator for Ships.*—August 6, 1867.—The ventilator tube has a frame of glass at top to allow the passage of light.

*Claim.*—First, the combination of the glass top C and the hood B, or their equivalents, substantially as described.

Second, the hinged deflecting doors E E in combination with the hood B provided with a glass top, substantially as described.

**67,472.**—MARTIN V. B. WHITE, Ballston, N. Y.—*Sash Fastening.*—August 6, 1867.—Improvement on his patent, June 26, 1866.—The wedge-formed stop slides in an inclined channel, and has an anti-friction roller in its upper end. The pivoted stop has a projection which engages a shoulder to fasten the window.

*Claim.*—The employment of the lock or stop C operating in the recess or mortise D, cut in the window sash B, and in combination with the arm L and roller F, in the manner and for the purposes substantially as hereinbefore fully described and set forth.

**67,473.**—ABRAM C. WICKER and LORSON W. WILLIAMS, Fairhaven, Vt.—*Variety Frame Lathe.*—August 6, 1867.—The bed frame carrying the posts and spindle is reciprocated by rotating guides coming in contact with vertical guides.

*Claim.*—First, the combination of the sliding frame C with the standards B and the shaft F, substantially as herein shown and described and for the purpose set forth.

Second, the patterns I constructed and secured to the shaft F, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the upright bearings J with the bed plate A and patterns L attached to the shaft E', substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the spring K or its equivalent with the sliding frame C and bed plate or



frame of the machine, substantially as herein shown and described and for the purpose set forth.

**67,474.**—MOSES WILES and JASPER C. WOCK, Fort Plain, N. Y.—*Milk Can Bottom*.—August 6, 1867.—The bottom re-enforced has radial ribs and upper and lower annular flanges.

*Claim.*—The bottom C formed of either cast or wrought iron or other material, substantially as shown and described, in combination with a milk can as and for the purposes set forth.

**67,475.**—B. O. WOODS and W. S. TUTTLE, Boston, Mass.—*Printing Press*.—August 6, 1867.—The tympan is pivoted to the short arm of bell cranks whose outer ends are adjusted by set screws parallel to the form.

*Claim.*—First, adjusting the tympan with reference to the type bed by appliances as *w*, the lower end of arms *d*, without intending to limit ourselves to the particular appliances shown, substantially as described.

Second, the arrangement of the crank arms *e*, and screws *g*, in combination with the tympan and bed plate, substantially as described.

**67,476.**—ELIAS B. ALLEN, Portland, Me.—*Piston Packing*.—August 6, 1867.—The steam enters at one side of the piston on its upward and at the other at its downward stroke, in each case expanding the packing against the inside of the cylinder.

*Claim.*—First, in combination with the part *g* of the piston, the arrangement of the segments constructed at *p o* and the segments, as shown at *q r*, in the manner and for the purposes herein described.

Second, in combination with the part *g* of the piston, the arrangement of the segments *p' o'*, having the channels *t* on the part *p'* and the segments *q' r'* having the lips to fit into the said channels *t*, in the manner and for the purposes described.

**67,477.**—MICHAEL ANDERSON, Brooklyn, N. Y.—*Chimney Cap*.—August 6, 1867.—The inclined wings give the impinging air a downward course, tending to attenuate the air at the casing top and assist the draft.

*Claim.*—First, the spiral revolving wings E, overlapping each other and leaving an open space F between them, in combination with the cylindrical casing B, disk D, and central tube G, as herein set forth for the purpose specified.

Second, the spiral flanges G, constructed as described, causing a downward circular motion to the atmosphere surrounding the central tube G in such a manner as to form a vacuum at its top, thereby increasing the draft of the chimney, as herein shown and described.

**67,478.**—E. H. ASHCROFT, Lynn, Mass.—*Steam Cylinder Lubricator*.—August 6, 1867.—The lubricating material enters the tube through the perforations of the cup in which it is placed. It then escapes through the valves into the cylinder, but when there is steam in the cylinder is arrested thereby.

*Claim.*—First, the combination of the valve E, cup A, tube C, and inner valve D, constructed, arranged, and operating in the manner substantially as shown and described and for the purpose set forth.

Second, the combination of said parts with outer cup F, arranged, constructed, and operating in the manner substantially as shown and described and for the purposes set forth.

**67,479.**—E. H. ASHCROFT, Lynn, Mass.—*Steam Gauge Cock*.—August 6, 1867.—A spiral spring assists the action of the steam upon the valve to press it upon its seat. The valve stem has a guide near the valve. The handle is partially of wood to lessen the heat of the same.

*Claim.*—First, the handle F, constructed in the manner substantially as shown and described and for the purpose set forth.

Second, the combination of handle F, stem B, disk H, spring *d*, gauge cock A, bearings I I, and valve C, constructed, arranged, and operated in the manner substantially as shown and described.

**67,480.**—E. C. ATKINS, Indianapolis, Ind.—*Machine for Grinding Saws*.—August 6, 1867.—The

grindstone being set in motion the saw is placed on the table and secured by the pin in the bed or the lugs attached to the end thereof. The carriage is set in motion by attaching the belt to the pulleys. The way frame is raised by the elevating screws in the rear.

*Claim.*—First, the combination and arrangement of the grindstone K and shaft M, collar N, adjustable boxes I, with pins K' and set screw O, with the re-eciprocating bed G, supported upon rods *u* and springs *t*, substantially as and for the purpose set forth.

Second, in combination with the bed G, rods *u*, and springs *t*, the carriage F and way frame E, adjustably supported at one end upon the screws R, substantially as and for the purpose set forth.

**67,481.**—WILLIAM C. BANKS, Como Depot, Miss.—*Cotton Seed Planter*.—August 6, 1867.—The rotating seed box is star form in vertical section and has adjustable openings at the salient angles. The seed drops into a hopper and is removed therefrom by fingers attached to the seed box.

*Claim.*—The seed box I, having the form herein described and provided with openings *c c*, in combination with the finger *g* and guiding box or hopper F, when arranged and operating in the manner and for the purpose specified.

**67,482.**—WILLIAM G. BARKER, Detroit, Mich.—*Spring Balance*.—August 6, 1867.—The supporting screw of the spring is connected to the latter by a swivel joint, to allow of the rotation of the screw in adjustment.

*Claim.*—A spring balance having its spring C' connected at one end to an adjusting screw B by means of a swivel connection, so that said spring can be more or less extended by turning said screw, substantially as and for the purpose described.

**67,483.**—ROBERT BAXTER, French Camp, Cal.—*Gang Plow*.—August 6, 1867.—The upper part of the standard is formed with a flange, which increases its strength.

*Claim.*—The head piece or flange, in combination with and forming part of the standard, in the manner and for the purpose set forth.

**67,484.**—EDWIN BENNETT, Oxford, Mich.—*Thill and Pole Coupling*.—August 6, 1867.—The shaft iron has an oblong-shaped cross bar whose ends enter cavities in the arms of the bar, which is strapped beneath the axle.

*Claim.*—The bar B, which is passed under the axle and spread at its forward part to form a spring for clutching the egg-shaped shaft iron by means of the bolt and screw E, for the purpose set forth.

**67,485.**—ALANSON BINGHAM, Surry, N. H.—*Chair Seat*.—August 6, 1867.—The splints are woven over a frame and engage round pins beneath. After removing the frame the loops are bent round a split frame, are inserted through a slot therein, and keyed.

*Claim.*—First, the combination of the splint A, slotted splint frame D, and strips E, or frame F, for combining the ends of the splint, substantially as described.

Second, the combination of the flanged chair seat frame F and double reversible seat frames, substantially as and for the purpose set forth.

**67,486.**—JAMES BIRD, New York, N. Y.—*Loop for Bearing Chains*.—August 6, 1867.—The shaft loop is of metal and connected to the back chain by a ring bolt, whose nut is beneath an elastic cushion in the head so as to form a spring to relieve the animal's back from jerks.

*Claim.*—Making bearing chains with a hollow head E, so as to receive and hold an elastic cushion F, substantially as above shown.

**67,487.**—EDWARD BOSTOCK, Albany, N. Y.—*Adjustable Parallel Ruler*.—August 6, 1867.—The two sections are connected by guide pins, and their distance is regulated by a transversely-adjustable slide carrying a longitudinal straight edge.

*Claim.*—First, the employment in parallel rulers of an adjustable slide having a straight supporting edge thereon, as and for the purpose described.

Second, in combination with such adjustable



straight supporting edge one or more guides or rods, as and for the purpose set forth.

Third, in combination with such adjustable straight supporting edge one or more guides or rods having knobs or heads thereon, as and for the purpose set forth.

Fourth, such adjustable straight supporting edge, when provided with a graduated scale thereon, as and for the purpose set forth.

Fifth, the combination of the laths A and B with the rods or bars C C, for the purpose set forth.

Sixth, the combination of the laths A and B, rod or rods C, and the straight supporting edge, as and for the purpose set forth.

Seventh, providing the guide rods with removable heads to admit of reversing the ruler relatively to a bar B, so as to place its beveled edges against or away from the material to be ruled, for the purpose set forth.

**67,488.**—F. G. BOTTNER, Bridgeport, Conn.—*Slate Pencil Sharpener*.—August 6, 1867.—The conical aperture has longitudinal knives on its surfaces.

*Claim.*—As an improved article of manufacture, a slate pencil sharpener, made and operating substantially as and for the purpose herein shown and described.

**67,489.**—THOMAS J. BOTTOMLEY, Burlington, Wis.—*Tug Holder*.—August 6, 1867.—The strap attaching the holder to the erupper passes through a slot in the disk. The tug slips through and is engaged by the spring jaw.

*Claim.*—A holder for tugs or traces, of harnesses constricted and applied to harnesses, substantially as and for the purpose described.

**67,490.**—WM. F. BRABROOK, South Hardwick, Vt.—*Harvester*.—August 6, 1867.—Two sickles are attached to the frame to allow nearer approach to stumps or stones, and accommodation to inequalities in the ground. The fore cutter bar may be raised by a hand lever, and the rear bar by a foot lever.

*Claim.*—The construction and arrangement of the jointed bars E F, sickles K K of unequal length, foot lever G, chain b, toothed segment I, lever J, pawl e on the lever shaft f in the bracket e, substantially as described for the purpose specified.

**67,491.**—GEORGE B. BRAYTON, Providence, R. I.—*Eyelet*.—August 6, 1867.—An alloy four parts tin and one part zinc is cast into eyelets and rolled into plates for construction of eyelets.

*Claim.*—An eyelet made from metal composed of the elements and possessing the characteristics substantially as described.

**67,492.**—JACOB BÜHRER, Mnnich, Bavaria.—*Apparatus for the Combustion of Fuel*.—August 6, 1867.—Explained by the claims.

*Claim.*—First, the employment of solid fuel in a fine state of division and causing it to ignite during its descent through a suitable combustion chamber to which it is supplied in a continuous manner by self-acting feeding apparatus, substantially as and for the purpose hereinbefore described.

Second, the application and use to and in the combustion chambers hereinbefore referred to of stops or obstructions, for the purpose of checking or retarding the descent of the finely divided fuel, through such chambers and insuring thereby its complete and perfect combustion.

Third, the substitution of an exhaust fan for the usual chimney for creating a current or currents of air through the combustion chamber hereinbefore referred to, when such fans are worked in concert with the several fuel feeding apparatus, substantially as hereinbefore described.

**67,493.**—JOHN L. BURCH, Franklin, Tenn.—*Splint*.—August 6, 1867.—The splints are of wood, permanently bent to the form of the leg, and are held to the limb by straps, which pass beneath metallic plates upon their outsides.

*Claim.*—First, the mode substantially as herein described of constricting and arranging the reversible splints A' A<sup>2</sup>, and of attaching the same to the injured limb.

Second, the combination of splints A A<sup>1</sup> A<sup>2</sup> and D, respectively constructed substantially as set forth.

Third, in combination with the vertical splints, the adjustable sole E attached thereto and to the foot, substantially as described.

**67,494.**—D. BURNETT, Bedford Station, N. Y.—*Elevated Bedstead*.—August 6, 1867.—The bedstead is suspended by cords running on pulleys actuated by a hand crank, which works in the partition and elevates the bedstead into a recess in the ceiling.

*Claim.*—The combination of a bedstead which can be raised or lowered by the devices substantially as described with sliding legs, as herein set forth for the purpose specified.

**67,495.**—JOSEPH D. CARTER, Thomaston, Conn.—*Apparatus for Straightening Sheet Metal*.—August 6, 1867.—The sheet is subjected to gradually diminishing bends between rollers or surfaces that act cross-wise of the bends or "set" in the plate.

*Claim.*—The arrangement of a series of rollers in the manner described, by means of which a sheet of iron may be subjected to a series of gradually diminishing bendings, as set forth.

**67,496.**—THOMAS CHATTERTON, Cleveland, Ohio.—*Steam Engine Oil Cup*.—August 6, 1867.—On bringing the handle at right angles with the eduction pipes the steam will be shut off from the chamber and oil from the cylinder, which will open the vents for escape of residual steam from the chamber. It, at the same time, opens communication with the saucer by which the chamber is charged with oil.

*Claim.*—The plug E, provided with ports I J and e, ports a f, and vent holes g, as arranged and in combination with the cup a, for the purpose and in the manner set forth.

**67,497.**—THOMAS J. CHUBB, Brooklyn, N. Y.—*Furnace for Oxidizing Ores*.—August 6, 1867.—The caloric current from the wood furnace passes around the air-heating pipes and through tubes traversing the heating chamber to a flue, and then through tubes recrossing the chamber to the exit flue, which is connected by damper posts with the heating chamber and chimney. The ore is placed in the hopper containing water, and communicating with the lower end of the heating chamber. It is elevated and discharged into the rotating ribbed cylinder, having a screen from which the water runs back into the hopper. The ore passes through the cylinder to the heating chamber, encountering in its course the disintegrating bath at the cylinder mouth. The heating chamber is made hot by the tubes traversing it, and the air pipes passing through the furnace. Pyroligneous acid may be collected by passing the smoke into the heating chamber.

*Claim.*—First, the combination of a revolving cylinder, which is provided with elevating strips or buckets, with a furnace which is constructed with a receptacle for receiving the ore from said cylinder, substantially as described.

Second, the construction of the cylinder D with a contrivance for grinding or crushing the ore as it flows therefrom, substantially as described.

Third, the combination of cylinders E D E, substantially as described.

Fourth, the receiving hopper G and furnace chamber B, with an elevator I and a revolving cylinder, in combination with a suitable furnace, all arranged so as to operate substantially as described.

Fifth, the construction of the furnace for heating the ore of a fire chamber A, flues b e d, chambers A<sup>1</sup> A<sup>2</sup> and B, damper openings g h, substantially as described.

Sixth, providing for conducting the products of combustion into or through the ore treating chambers, or directly off through pipe P, at pleasure, substantially as described.

Seventh, inclining the cylinder D toward the furnace so as to effect the return of the ore after each treatment to the receiving hopper G, substantially as described.

Eighth, the receiver H, in combination with a cylindrical screen E, substantially as described.

Ninth, the tilting trough J, in combination with a return spout L, leading down to the receiver G, substantially as described.

Tenth, the arrangement of a series of disconnected pipes c c d d b b, with relation to the furnace chamber



A, hot air chamber B, substantially as and for the purpose described.

Eleventh, so constructing an apparatus for treating ore, substantially as described, that the operation or treatment can be repeated as often as desired without handling the ore, substantially as described.

**67,498.**—THOS. J. CHUBB, Brooklyn, N. Y.—*Amalgamator*.—August 6, 1867.—Dry pulverized ore is conveyed by the hopper and conveyer screw to the rotating cylinder whose shelves raise it and drop it among the fumes of mercury. It is carried thence by a hopper and discharge screw into a water tank. The mercury is fed through a valve-way into the retort and the fumes pass thence into the cylinder.

*Claim.*—First, the employment of a revolving cylinder in combination with lifters, stirrers or agitators for conveying and stirring ore containing precious metals, which ore is being subjected to the action of the vapor of mercury, substantially as described.

Second, the employment of a revolving shaft with stirrers or projections on it for stirring, conveying, and exposing ore containing precious metal, and while such ore is being exposed to the vapor of mercury, substantially as described.

Third, the arrangement of a condenser in combination with a mercury still and contrivances for exposing the ore to the action of the vapor of mercury, substantially as described.

Fourth, producing a partial vacuum in a mercury retort and appurtenances of an apparatus for amalgamating precious metals by means of a pump, chimney, or their equivalents, substantially as described.

Fifth, the outer casing or housing for enclosing an apparatus in which the vapors of mercury are used for amalgamating precious metals, substantially as described.

Sixth, providing for collecting the vapor of mercury on its way from the amalgamator to the escape-flue or chimney, substantially as described.

Seventh, heating the amalgamating chamber in which the vapors of mercury and precious metals are contained by heat applied upon the outside of the chambers so as to prevent a too sudden condensation of the mercury upon the inside of said chambers.

**67,499.**—JAMES B. COFFIN, Ashland, Ohio.—*Washing Machine*.—August 6, 1867.—A disk with radial cleats is attached to the bottom of the tub. The pounder disk has cleats beneath and is attached to a vertical handle that has an upper bearing in a frame attached to the lid. An operating lever is pivoted to the frame and secured by the collar to the vertical handle. A spring connects the lever to the frame above, forming an assistant retractor.

*Claim.*—First, the combination of the block D, board E, posts F, board G, and lever H with each other and with the tub A, substantially as herein shown and described, and for the purpose set forth.

Second, the collar *k* constructed and shown as described in combination with the handle *i* and side pieces *h'* of the lever H, substantially as and for the purpose herein set forth.

Third, the combination of the rubber or equivalent spring L with the board G and lever H, substantially as herein shown and described and for the purpose set forth.

Fourth, attaching the handles M to the lever H by means of a rubber or equivalent spring *n*, substantially as herein shown and described and for the purpose set forth.

**67,500.**—EZRA G. CONE, East Hampton, Conn.—*Cast Iron Bell*.—August 6, 1867.—The shank is inserted in the mold previous to casting to avoid the difficulty of drilling the cast-iron crown.

*Claim.*—A cast-iron bell having its shank B of malleable cast-iron or other soft metal capable of being drilled, with the body A of the bell cast around it, substantially as herein shown and described.

**67,501.**—ALLEN P. COVELL, San Leandro, Cal.—*Gang Plow*.—August 6, 1867.—When the lever beside the driver's seat is pushed forward it depresses the pivoted plow beams in front and raises the plows to adjust their depth.

—First, attaching the beams A A to the between the reaches *a a* by the rod C, so that

the plows may be made to move up and down swinging on the axle J and rod by operating the lever G, when disengaged, substantially as described.

Second, attaching the axle J' and axle bed J, angularly to the frame, the clips K K, and adjusting blocks *l l*, substantially as described and for the purposes set forth.

Third, the links D D, attached to the beams or frame and the rigid arms E E of the roller operating in them in combination with the beams A A and pole B, substantially as described.

Fourth, the construction, arrangement and combination of the beams A A, pole B, reaches *a a*, rod C, axle and axle-bed J and J', temper blocks *l l*, roller F, and arms E E, together with links D D, substantially as described and for the purposes set forth.

**67,502.**—RICHARD T. CRANE, Chicago, Ill.—*Pattern for Casting Steam Pipe Supports*.—August 6, 1867.—The hook patterns are pivoted to the main pattern by pins. By inserting a hook in the small aperture the hook pattern may be raised from the mold without displacing the sand.

*Claim.*—In combination with the main pattern A one or more pivoted hook patterns B, arranged and operating substantially as and for the purposes herein specified.

**67,503.**—RICHARD T. CRANE, Chicago, Ill.—*Steam Heater*.—August 6, 1867.—The steam first enters the lower header into which the pipes all discharge their water of condensation. The upper header has a cock to allow air discharge.

*Claim.*—The combination and arrangement of the headers B C and pipes P, with a steam inlet A at the bottom, as and for the purposes described.

**67,504.**—RICHARD T. CRANE, Chicago, Ill.—*Steam Heater*.—August 6, 1867.—The pipes communicate with three headers and are so inclined that the water of condensation drains to the lower one. The upper and lower headers communicate with the generator and the central heater has a cock for exhaust of air.

*Claim.*—In combination with a series of coils P, and the headers B C D, the arrangement of the steam inlet pipes *a b*, substantially as and for the purposes specified.

**67,505.**—RICHARD T. CRANE, Chicago, Ill.—*Steam Generator for Heating Purposes*.—August 6, 1867.—The solid grate bars have longitudinal agitation by a ribbed rocking bar on which their fore ends rest. The furnace is lined and the fire space traversed by horizontal pipes, the current through which is supplied by vertical pipes and headers. The scrapers traverse the horizontal pipes to free them from soot. From the receiver in front of the furnace the condensed steam is carried to the lower part of the generator.

*Claim.*—First, the arrangement of movable bars R, in combination with stationary water grate bars, substantially as and for the purposes specified.

Second, the combination and arrangement of the vertical headers G and the horizontal pipes L, substantially as specified and shown.

Third, the combination of the water grate bars F with said headers G and pipes L, arranged and operating substantially as specified and for the purposes described.

Fourth, the arrangement of the pipe or pipes K with the pipes J and headers I I, substantially as and for the purposes specified.

Fifth, the arrangement of the heads M, when constructed so as to form a water drip for condensed steam, as set forth and described.

Sixth, the arrangement of the pipes N with the receiver O, so as to form a drip for the condensed steam in said reservoir, and in combination with the pipe P, substantially as and for the purposes specified.

Seventh, the combination of the three systems of pipes F J and L, when connected and arranged in the manner herein set forth and shown and for the uses specified.

Eighth, the arrangement of a series of scrapers Y, in combination with a series of horizontal pipes L, as and for the purposes specified and shown.



**67,506.**—RICHARD T. CRANE, Chicago, Ill.—*Low Water Alarm for Steam Generators.*—August 6, 1867.—The pipe is full of water till the level of that in the boiler falls to the low-water mark, when steam, passing into the pipe, opens a valve, causing the escape of steam to blow a whistle.

*Claim.*—The arrangement of the pipes B B, and tie D, with respect to the valves B, substantially as and for the purposes specified.

**67,507.**—ANDREW J. CRONK, Peoria, Ill.—*Pad Tree.*—August 6, 1867.—The pad is secured to the bridge by screws and turrets to increase its solidity. The D's on the ends of the bridge receive the back straps instead of attaching them to the pad iron.

*Claim.*—First, the pad iron as constructed and combined with the bridge, substantially in the manner and for the purpose as herein set forth.

Second, the bridge constructed with D's and combined with the pad iron, substantially in the manner and for the purpose as herein set forth.

**67,508.**—ANDREW J. CRONK, Peoria, Ill.—*Horse Collar.*—August 6, 1867.—The wooden collar is padded inside and is strengthened and secured by metallic bands, nails, and bolts. Key plates with sockets are attached thereto, and to them are attached the clips to which the traces are secured.

*Claim.*—First, constructing a wooden collar, combined with metallic bands, nails, and bolts, substantially in the manner and for the purpose herein set forth.

Second, constructing a wooden collar with sockets and key plates, combined with trace or tug clips, substantially in the manner and for the purpose as herein set forth.

**67,509.**—OLIVER CROOK, Dayton, Ohio.—*Bridle Bit.*—August 6, 1867.—The front part of each ring is tubular, and through them pass the straps connecting the lines to the head stall.

*Claim.*—The bridle bit A, having a stiff bitmouth, with rings B B rigidly attached at either end, and the anterior portion of these rings having orifices through the center for a strap connecting the driving reins to the headstall, substantially as and for the purpose described.

**67,510.**—JAMES E. CROSS, Chicago, Ill.—*Lantern.*—August 6, 1867.—The guard wires traverse the cap diametrically and run from side to side of the base. The bottom of the lamp has a candle socket, which is used by inversion of the former. The lamp flange has peripheral slots which admit the downward passage of the holding pins of the base.

*Claim.*—First, the construction of the oil cup with the socket, so that it may be used for oil or with a candle, substantially as herein recited.

Second, the combination of the space *i* of the flange *h* and the catches *j* for attaching the oil cup to the bottom of the lantern.

**67,511.**—MARCELLUS V. CUMMINGS, Winthrop, Me.—*Oscillating Engine.*—August 6, 1867.—When the forward end of the cylinder is depressed the passage will open in the rear for the entrance of steam. The steam driving the piston forward rotates the crank and raises the forward end of the cylinder, reversing the course of the steam.

*Claim.*—The combination as well as the arrangement of the trunnion passages *o p* with the cylinder ports *q r* and the box B and its induction and eduction passages *d s*.

Also, the combination as well as the arrangement of the two cocks *h i* and the conduits *f g u v* with the conduits *d s*, the box B, the trunnion *a*, its passages *o p*, and the ports *q r* of the cylinder, the whole being to operate substantially as specified.

**67,512.**—R. D'HEUREUSE, San Francisco, Cal.—*Fermenting Liquids for Distillation and other Purposes.*—August 6, 1867.—A blast of air of the required temperature is passed into the mash.

*Claim.*—The introduction of air of the proper temperature into the fermenting substance from below, for the purpose of more thoroughly fermenting the whole mass and to control the progress of fermentation, substantially in the manner described and set forth.

**67,513.**—GEORGE DODGE, Kalamazoo, Mich.—*Plow Wheel.*—August 6, 1867.—The hub and axle are cast with a chill and have a eap for the outer end of the hub and a socket on the arm for the inner end thereof. A groove extends around the hub and a slot is made through the socket for the escape of extraneous matters.

*Claim.*—First, a gauge wheel for a plow, having its hub B and axle C cast with a chill, for the purpose set forth.

Second, the recess *d* in the exterior of the hub B of the wheel, in combination with the slit or slot *e* in the socket *a*, substantially as and for the purpose specified.

Third, the combination of the eap *b* with the socket *a*, applied to the hub B of the wheel, and secured thereon, substantially in the manner and for the purpose set forth.

**67,514.**—ANDREW ERKENBRECHER, Cincinnati, Ohio.—*Starch Elevator.*—August 6, 1867.—The boards loaded with starch are elevated by an endless apron and delivered on to a table in the drying room. The boards slide back by their own gravity, being placed on their edges in a trough with rollers in the bottom.

*Claim.*—The arrangement of ascending, endless apron E, trestle G, and return trough J, as and for the purpose set forth.

**67,515.**—ANDREW ERKENBRECHER, Cincinnati, Ohio.—*Starch-making Apparatus.*—August 6, 1867.—The tanks, vessels, gutters, and floors are made of masonry or cement to obviate the difficulties arising from the porosity of wooden vessels.

*Claim.*—First, a starch-making establishment or factory, whose containing vessels and floor are composed wholly or chiefly of cement or masonry, having suitable ducts, gutters, &c., and being formed and arranged substantially as and for the purpose set forth.

Second, constructing the various receptacles, &c., of a starch factory of stone, marble, or cement, or any two or more of these combined, substantially as and for the purpose herein described and explained.

**67,516.**—ANDREW ERKENBRECHER, Cincinnati, Ohio.—*Starch Agitator.*—The gravitating bars are loosely connected by rods and chains to the rotating cross-heads and vertical shaft. These are dragged around on the deposited starch, and subside as the starch is worked up.

*Claim.*—The starch agitator, composed of gravitating bars F, loosely connected to a revolving vertical shaft, substantially as and for the purpose set forth.

**67,517.**—ANDREW B. FALES, Troy, N. Y.—*Spider or Frying Pan.*—August 6, 1867.—The skillet has two spouts.

*Claim.*—As a new article of manufacture, a spider, constructed substantially in the manner and for the purposes herein described and set forth.

**67,518.**—JEROME B. FARMER, Indianapolis, Ind.—*Latch and Catch.*—August 6, 1867.—When the pivoted, weighted latch strikes the incline of the catch it slides down it and rises within the shoulder. The pivoted lock stop, when raised, prevents its unlatching.

*Claim.*—First, latch bar B, pivoted between two plates, as shown, in combination with the lock stop C, when these are used in conjunction, as set forth and for the purposes declared.

Second, a double-jawed catch, the upper jaw serving as the catch proper, while the lower jaw is a tripping incline, to throw the latch into the recess of the catch when a gate or door is shut quick, all as set forth in the foregoing.

**67,519.**—JESSE FEWKES, Newton, Mass.—*Threading and Regulating Tension of Thread in Weaving and Braiding Machines.*—August 6, 1867.—The sleeve is pressed up against the head of the hook by a spiral spring regulated by a screw nut. The strand is conducted from the spool over the edge of the cup, down under the hook and up over the opposite edge to the required point. When the strand is knotted the edge of the cup against which it is drawn is rocked, affording entrance between the cup and hook.

*Claim.*—The hook F, in combination with the hollow cup H, operated substantially as described, for the purpose set forth.



**67,520.**—DANIEL FLYNN, Hartford, Conn.—*Machine for Cutting Key Seats.*—August 6, 1867.—The machine is attached to the inside surface of the hub and is gauged and regulated by it to cut the key seat true with the central axis of the hub.

*Claim.*—First, the combination of the centering chucks A A', the tool shaft E, the tool K, the slide L, and the screws *s* and *s'*, or their equivalents, for the purposes of a machine for cutting key seats, substantially as herein described.

Second, the slide L, in combination with the screws *s* and *s'* and reciprocating shaft E, for raising and feeding the tool K, substantially as herein described.

**67,521.**—HENRY A. and AMOS FOLLETT, Smithfield, R. I.—*Bed Bottom.*—August 6, 1867.—The two alternating sets of spring bars are respectively attached to the head and foot, one set above the other. They are secured together with studs, leaving the upper and the lower slat alternately free to spring.

*Claim.*—First, a bed bottom, composed of two sets of spring bars *e e'*, in alternation, one end of the bars of each set being held fast and the other end left free to spring, and arranged so that one-half, or nearly so, of such bars will have their springing ends at the head and the residue at the foot of the bedstead, all of such bars being combined with a transverse rail B, or other suitable fixed support for the same, the improvement being substantially as herein described.

Second, a bed bottom, constructed and arranged as above described, in combination with a slat frame C, or other proper support for the mattress, substantially as described.

**67,522.**—JOHN FRANK, Webster City, Iowa.—*Cultivator.*—August 6, 1867.—The outer legs turning in their bands are adjusted by the transference of the hooks from one staple to the other to present the shovel towards or from the plants.

*Claim.*—A cultivator, or shovel plow, having the leg A, staple B, strap C, staples D D, hook E, and staple F, arranged, combined, constructed, and operating substantially as described.

**67,523.**—LEVI W. FREDERICK, Gosport, Ind.—*Horse Rake.*—August 6, 1867.—The axles have their bearings in the outside hounds and in the swinging draft bars in which the rake head is pivoted. The thills are braced by the curved extension of the hounds.

*Claim.*—First, the arrangement of the thills A A, the double cross bar B, and the outside hounds C C, in combination with the rings *a a* and the short axles *b b* of the driving wheels D D, constructed and forming together a compact, light and strong body for attaching a horse hay rake, as herein described.

Second, the adjustable rings *a a*, in combination with the axles *b b* and the hounds C C, arranged and operating as herein set forth.

Third, the swinging draft bars *e e* in combination with the hounds C C, the adjustable guides *d d* and the rake head E, arranged and operating as herein described.

**67,524.**—H. E. FRÖHLICH, Easton Pa.—*Thread Guide for Sewing Machines.*—August 6, 1867.—Improvement on the patents of D. W. G. HUMPHREY, October 1, 1862, August 29, 1865, and October 3, 1865.—A wire arm is laid over the spool to hold the thread. The arm is clamped to the frame and the thread passes through an eye near the end.

*Claim.*—The wires B E and F, when arranged substantially as and for the purpose herein shown and described, in combination with the jaws C and set screw D, all to be applied to the button-hole sewing machine as set forth.

**67,525.**—HENRY S. FROST, Watertown, Conn.—*Door Spring.*—August 6, 1867.—As the door is opened the anti-friction, grooved roller attached thereto presses against the rod, which in turn bends the spring. The reaction of the latter closes the door.

*Claim.*—First, the combination of the spring C, bar E and friction roller or pulley G with each other and with the door A and door-frame B, substantially as herein shown and described, and for the purpose set forth.

Second, connecting the rear ends of the spring C and bar E to each other by an eye or link F, sub-

stantially as herein shown and described and for the purpose set forth.

**67,526.**—JOHN FRYLING, Fletcher, Ohio.—*Stream Fence.*—August 6, 1867.—The two sills are placed across the creek and are united by transverse rails. Two curved pieces are locked in the frame, and their cross-keyed ends sunk in the ground up stream.

*Claim.*—The two sills, the curved timbers or anchors, and the slats, as set forth in the drawings and specifications.

**67,527.**—MATTHIAS GABRIEL, Newark, N. J.—*Rotary Steam Engine.*—August 6, 1867.—The piston revolves on a hub concentric with the cylinder, and the annular steam space between the hub and the cylinder side is traversed on each side alternately by sliding abutments, connected together and operated by a segmental cam on the piston shaft, which impinges against anti-friction rollers of the frame.

*Claim.*—The sliding abutments E E\*, when connected by the yoke or bar F and operated simultaneously by the cam G on the axis of the rotating piston D, substantially as and for the purpose set forth.

**67,528.**—PETER GABRIEL, Seymour, Conn.—*Lead Holder or Pencil.*—August 6, 1867.—As the pencil wears, the lead is projected by screwing the inside case within the outer.

*Claim.*—The combination of the outer and inner tubes A and B, respectively, and stationary center stem or plug C, substantially as and for the purpose described.

**67,529.**—JOHN GARDNER, Philadelphia, Pa.—*Cocoa-nut Cutter and Grater.*—August 6, 1867.—The perforated cylinder, with corrugated and knife attachments, rotates in a box below the supply hopper.

*Claim.*—First, the hollow cylinder D, provided with a perforated periphery to form a grater in combination with the knives E and cutters *c* at one end of the same, arranged in the manner substantially as and for the purpose set forth.

Second, the hoppers G H on the top or cover F of the box, in combination with the hollow cylinder D with its knives and cutters at one end and its perforated periphery, all arranged substantially as and for the purpose specified.

**67,530.**—HENRY GETTY, Brooklyn, N. Y.—*Tube Cutter.*—August 6, 1867.—The cutter is forced against the pipe by the action of the screw upon the anti-friction rollers, and the tool revolved around the pipe to sever the same.

*Claim.*—A tube cutting implement provided with a V-shaped cutter B, operating in combination with the two supporting rollers E E, all constructed and arranged substantially as shown and described.

**67,531.**—CHARLES GRAHAM, Kingston, Pa.—*Hydrostatic Press.*—August 6, 1867.—The pump has a solid plunger and its cylinder is flaring at the upper end. The pump is contained in the press plunger and is interposed between the cavity of the press cylinder and the reservoir. The water flows back into the reservoir through the port of a valve operated by a hand-crank.

*Claim.*—First, the combination of the reservoir C, stationary press ram D and pump E, arranged within said ram, as described, with a space between it and the latter for collection of sediment or dirt, substantially as herein set forth.

Second, the arrangement of the relief valve *d* relatively to the pump E, ram D, and ram F, for operation essentially as described.

**67,532.**—WILLIAM A. GRIFFETH, Boston, Mass.—*Mosquito Net Frame.*—August 6, 1867.—The upright bow is attached to the head posts of the bedstead, and the drop bow is pivoted to and engages against the shoulders of the studs screwed to the head posts.

*Claim.*—The arrangement and combination of the hinge and wire frame in connection with the wire frame held by the socket as applied to a bedstead, substantially as described.

**67,533.**—S. Z. HALL, Camden, N. J.—*Feeding Attachment for Cotton Gins.*—August 6, 1867; ante-



dated July 22, 1867.—The feeding cylinder is of wire cloth, and the dirt falls through the interstices into the interior. An adjustable pulley insures proper tension in the belts driving the ginning saws and feeding cylinder. A lever in connection with the pawl actuates the rollers conveying the cotton to the cylinder, so as to simultaneously elevate the breast and stop the rollers.

*Claim.*—First, the reticulated toothed feeding cylinder B, constructed and operating as herein set forth for the purpose specified.

Second, the combination of the adjustable pulley K with the belt *u*, which operates the feeding cylinder, and the belt or band J, which operates the ginning saws, in such manner that the tension of said belts may be adjusted or regulated by changing the position of the aforesaid pulley, substantially as herein set forth.

Third, so arranging the lever D, in relation to the pawl *g* and in connection with the breast E, that the same movement of the lever which raises the "breast" shall simultaneously stop the movement of the feeding rollers *e*, substantially as herein set forth.

Fourth, the belts *u* and J, operating in connection with the pulley K, and arranged to actuate the feeding-cylinder, ginning saws and brushing cylinder, substantially as herein set forth.

**67,534.**—JOSHUA F. HAMMOND, Providence, R. I., assignor to HENRY STAPLES & CO.—*Knife Cleaner.*—August 6, 1867.—The operative head has a dredge box for the abradant and a cork as a means of application.

*Claim.*—The socket A, the cup B, with its cup provided with the small openings, and cork C, or its equivalent, all arranged substantially as described and for the purposes set forth.

**67,535.**—HENRY J. HANCOCK, New York, N. Y.—*Sewing Machine.*—August 6, 1867.—The cloth bed is adjusted by the wedge-shaped disk pressing on a projection of the pivoted arm of the bed in combination with the stationary foot above.

*Claim.*—The combination of the wedge-shaped adjustable disk K with the raising and lowering cloth table I and stationary foot or presser H, for operation together, substantially as specified and for the purpose or purposes herein set forth.

**67,536.**—H. A. M. HARRIS, Philadelphia, Pa.—*Needle for Sewing Machines.*—August 6, 1867.—The needle has a point at each end, a shield protecting the point not in use.

*Claim.*—The new article of manufacture, constructed substantially in the manner described, and constituting a double-eye pointed sewing machine needle.

Also, the combination with the double-eye pointed needle of a shield or cap, substantially as and for the purpose described.

**67,537.**—JAMES HARRISON, New York, N. Y.—*Ringling Bells.*—August 6, 1867.—The oscillation of the bell or the clapper operates a pawl and ratchet wheel, connected by a train of gearing to a wheel by which the bell is slowly rotated.

*Claim.*—First, the combination of the lever *m* and cam or eccentric *k*, substantially as and for the purpose described.

Second, arranging a pin or rest beneath cam *k* to support it and give it a firm bearing, and also curving the under side of the cam, substantially as described.

Third, the combination and arrangement of the movable cam or eccentric *k* with the pawl lever J, substantially as described.

Fourth, the combination of the movable cam or eccentric *k*, lever *m*, and clapper *o'*, substantially as described, for the purpose of rotating the bell.

Fifth, the combination of the movable cam or eccentric *k* and pawl lever J with the gearing H I *g* F *e*, worm *d*, and wheel C, substantially as and for the purpose described.

Sixth, the arrangement in yoke B of square hole *n* in the center of round hole *m'*, for the purpose of receiving the square part *n''* of bolt *o n'*, substantially as described.

**67,538.**—JOSEPH G. HARRISON, New York, N. Y.—*Steam Safety Valve.*—August 6, 1867.—The globe valve has a pendent stem with a weight attached to its lower end. The valve head is hollow and contains removable weights. The cover has segmental lips which pass through spaces in the top of the case, are attached to similar lips by a fraction of a turn, and are secured by a padlock.

*Claim.*—First, the combination with a lock-up valve box or case of a ball or globe-faced valve F, working in a suitable socket or seat and carrying a pendulum weight G, for operation substantially as and for the purpose herein set forth.

Second, the combination of the removable weights I with a globe-shaped valve F and pendulum weight G, substantially as and for the purpose specified.

**67,539.**—D. B. HART, Mentor, Ohio.—*Nut and Washer.*—August 6, 1867.—A recess in the washer, nut, or both, contains india-rubber to prevent accidental unscrewing.

*Claim.*—The within-named device, constructed and operating as described, or its equivalent, as a new and original mode for the purpose set forth, and used in either or all of the forms herein delineated and described.

**67,540.**—ALFRED HATHAWAY, Charlestown, Mass.—*Album.*—August 6, 1867.—Beneath the usual picture opening is a space cut out to hold a slip for an autograph.

*Claim.*—First, a photographic album with an adjustable index, constructed substantially as set forth.

Second, an autographic album with opening C in its pages, when so constructed that the autographs may be inserted or removed through the side of the page, substantially in the manner set forth.

**67,541.**—P. HAYDEN, Pittsburg, Pa.—*Brick Machine.*—August 6, 1867.—The clay is forced into the molds in the horizontal disk and is carried to the frame reciprocated by an eccentric, and carrying the presser and plunger; it is first pressed and then forced out by the plunger and moved on to an endless apron by an oscillating arm.

*Claim.*—First, the reciprocating frame L, so combined with the plunger I, sliding bottom *i*, and mold K, and so constructed that by its downward movement the brick will be compressed in the mold K, as set forth.

Second, the grooved cam P, in combination with the levers R and *o* and spring catch *r*, all made as described and operating so that by revolving the cam P the lever *o* will be moved back and forth and the wheel H be operated.

Third, the device for locking the wheel H, consisting of the spring pawls *s* and *t*, the latter being provided with a projecting pin or lug *u'*, which is operated by a single cam, substantially as set forth.

Fourth, the follower O, when secured to the reciprocating frame L, in combination with the mold wheel H, all made and operating substantially as herein shown and described.

Fifth, the stirrers G' provided with the oblique arms *d*, in combination with the knife *c'* at one end of the opening *c*, whereby the amount of clay necessary for each brick is regulated, as herein shown and described.

**67,542.**—JOHN C. HENRY, Point Douglas, Minn.—*Plow.*—August 6, 1867.—The stubble turner is attached to the point of the coulter and curves over in front of the mold-board.

*Claim.*—The combination of the mold-board C and the stubble turner B, arranged, constructed, and operating in the manner as shown and described.

**67,543.**—WM. HILER, Branchport, N. Y.—*Straw-Carrier.*—August 6, 1867.—The straw-carrier is adjustable at a right angle to the carrier and is actuated by a miter wheel engaging with a similar wheel on the upper pulley of the thresher.

*Claim.*—The straw-carrier B, when made and applied to a thresher and cleaner with its adjustable and reversible devices, by the arrangement of the wheels G, H, J, and K with the axles and grooved pulleys that actuate the straw-carrier, in combination, substantially as herein specified and for the purpose set forth.



**67,544.**—A. C. HOBBS, Bridgeport, Conn.—*Sewing Machine*.—August 6, 1867.—The cam has inclined sides and is interposed between the arm and the face plate so as by its oscillation to regulate the prominence of the latter.

*Claim.*—In combination with the face plate or needle box *b f*, the screw *d* and the cam *e* for adjusting and controlling the proper adjustment of said face plate or needle-bar box and the needle bar and needle therein, substantially as described.

**67,545.**—SAMUEL HODGINS, St. Louis, Mo., assignor by mesne assignments to SAMUEL B. TUCKER and M. JAMES BARWICK, same place.—*Spiral Fissure Needle*.—August 6, 1867.—The haft screws into the socket of spiral needles of varying sizes that have eyes at their points, for sewing up wounds, &c.

*Claim.*—First, the spiral fissure needle *A B*, constructed substantially as and for the purpose herein specified.

Second, the combination with the above of haft or shaft *F*, attached by means of the screw *D* and socket *C*, or in any equivalent manner, substantially as described.

**67,546.**—FRIDOLF HÖÖK, San Francisco, Cal.—*Means for Reefing Topsails*.—August 6, 1867.—Traveling rollers are placed at intervals along the spar supported by the lower topsail yard, strengthening the spar and keeping the sail in place. A reefing chain, having sufficient turns about the rolling spar, passes in a sheave hole in each end of the yard, and then beneath to a quarter block, from which it passes inside the run of the block, the tackle for reefing passing from thence to the deck.

*Claim.*—The crutch *g* attached to the lower topsail yard and its friction rollers *n n*, together with the segments *d d* moving on said rollers and attached to their sides *a a*, substantially as and for the purpose described.

**67,547.**—LEWIS HOVER, Chicago, Ill.—*Boat Detaching Tackle*.—August 6, 1867.—The bolts are projected into the links by the spiral springs and simultaneously detached by the pivoted lever to which they are connected.

*Claim.*—The bolts *D D*, springs *e e*, bars *C C*, rods *F F*, and lever *G*, arranged with the links *B B* for attaching or detaching the boat *A*, substantially as herein specified.

**67,548.**—WM. H. HOVEY, Springfield, Mass.—*Brick Machine*.—August 6, 1867.—Improvement on his patent of February 16, 1866. The clay passes through the crushing hopper into a larger hopper, where it is worked into a proper consistency, and drops into the channels, from which the plungers propel it through the dies to the knives which cut the mass into brick lengths.

*Claim.*—First, the combination of the lever beam *J*, plungers *G G'*, and connecting rods *K K'*, arranged and connected substantially as shown.

Second, the combination and automatic arrangement of the parts as follows: the gear wheel *M* operating the crank arm *P* and main shaft *I*, the latter turning the shaft *V*, with its pulleys *i* and *j*, and chair gear operating the revolving knives *H H H' H'* and crushers *C C'*, the whole constructed as shown.

Third, one or more sweeps, consisting of the arms *b b*, having teeth *c c c*, one of them operating automatically with the plungers so that it fills the chambers alternately with clay when the plunger of each chamber has receded in turn—this or these in combination with the plunger *S* and *G*.

Fourth, the peculiar shape of the dies *g g'*, so that they taper from an ellipse to a parallelogram, the width and thickness of the brick desired tapering at the sides but not at the corners, substantially as shown.

Fifth, arranging the plungers *G G'* so that they may be thrown out of gear, allowing the clay to be ground and worked but not pressed into brick.

Sixth, the revolving knives *H H H' H'*, in combination with the troughs *n n'* having the grooves *o o o*, arranged substantially as shown.

**67,549.**—O. D. HUNTER, Terrysville, Conn.—*Bolt*.—August 6, 1867.—The clasps embrace the bolt, and the raised head of the rear-attachment screw secures the bolt from withdrawal.

*Claim.*—The bolt *a*, plate *c*, clasps *d*, constructed, arranged, and operating substantially as and for the purpose described.

**67,550.**—JACOB JAMESON, Philadelphia, Pa.—*Device for Cleaning Weeds from Plows*.—August 6, 1867.—The rotating wheel is pivoted to a sliding stem that passes through a staple on the beam and is vibrated by a spring to which it is attached. Its purpose is to clean weeds and stubble off the breast of the plow.

*Claim.*—The wheel *A* attached to the sliding or yielding stem and held down by a spring, when applied to a plow, substantially as and for the purpose set forth.

**67,551.**—HENRY and CHARLES JARECKI, Erie, Pa.—*Steam-Engine Lubricator*.—August 6, 1867.—The strainer extends from the edge of the cup to a collar sleeved on the stem of the conical spring valve.

*Claim.*—The arrangement of the strainer *D* with the lubricator, substantially as described.

Also, the valve *F*, the chamber *a*, and the plunger *E*, arranged substantially as shown and described, for the purposes set forth.

**67,552.**—HENRY JEFFREY, St. Charles, Mo.—*Nail Extractor*.—August 6, 1867.—The claw head has two elliptical plates with segmental recesses at their ends to receive the spike head. This head is attached by a square bolt to the bent end of the bar.

*Claim.*—The steel plates *b b*, provided with double or single claws *e e*, in combination with the bent lever *A*, constructed and operating as described.

**67,553.**—NICHOLAS JENKINS, New York, N. Y.—*Machine for Making Moldings*.—August 6, 1867.—The adjustable hook supports the carriage to any adjustment. The cutter turns in an annular guide attached to the carriage. The stationary guide comes in contact with the template, which is guided by it to bring the wood which is clamped above it and brought in contact with the cutter. The springs of the hooks supporting the carriages are simultaneously relieved by a single rod, when desired. The first template is attached to the table, and the remainder to that one.

*Claim.*—First, the adjustable hook *I K L*, arranged to operate in connection with a sliding carriage *C* and cutting arbors *B<sup>1</sup> B<sup>2</sup>*, constructed and operating substantially in the manner and for the purpose above described.

Second, the round guide *V* mounted concentric to the arbor of a cutter supported above, as described, and rising and sinking therewith without touching the cutter so as to make any considerable friction against the same, substantially as and for the purpose herein set forth.

Third, the employment on a cutting arbor supported above, as specified, of the stationary guide *T*, mounted below the cutter, and adapted to serve as a guide in a variety of molding, substantially in the manner herein specified.

Fourth, fitting the template upon the wood *H* and securing it thereon, in combination with means for moving both in every direction, the whole being arranged relatively to one or more cutters *Q* revolved above, substantially as and for the purpose herein set forth.

Fifth, in a wood-working machine, confining and releasing the entire series of templates *G G<sup>1</sup>* by confining and releasing the outer one alone, substantially as and for the purpose herein specified.

Sixth, the single head *w* carrying the two or more carriages *C<sup>1</sup> C<sup>2</sup>* and cutting arbors *B<sup>1</sup> B<sup>2</sup>* and their connections, provided with means for raising and lowering the whole together, substantially in the manner and for the purpose herein specified.

**67,554.**—SAMUEL C. JENNINGS, Wantoma, Wis.—*Bed Bottom*.—August 6, 1867.—The slats are supported at the head and foot on fixed cleats and spring bars, their free ends nearly meeting in the center.

*Claim.*—The spring bed bottom constructed as described, consisting of two sets of springs *G*, their inner ends free and their outer ends secured between the bars *H D*, the latter resting either upon the side springs *F* or provided with the elastic blocks *J*, and resting upon the loops *E*, secured to the side rails *A*,



all arranged to operate as herein set forth and for the purpose specified.

**67,555.**—NICHOLAS JOLY, Paris, France.—*Medical Compound.*—August 6, 1867.—For use as common cod-liver oil, composed of white cod-liver oil, 3,500; white sugar, 1,500; albumen, 750; alcohol, 300; essential oil of bitter almonds, 5; and oil of peppermint, 2.

*Claim.*—The aforesaid albuminous cod-liver oil paste or cream made by combining cod-liver oil and sugar with albumen, substantially as herein described, when alcohol is incorporated therewith to conserve it.

Also, the combination of fish albumen with cod-liver oil, substantially as herein described.

**67,556.**—JAMES JONETT, New York, N. Y.—*Chair and Couch.*—August 6, 1867.—By different arrangements and attachments of the apron to the pivoted frame it is formed into either a seat or couch.

*Claim.*—First, in combination with the frame and shifting apron the flattened cross-bars  $b^1$  and  $c$ , the whole arranged and operating in the manner and for the purposes described.

Second, the cross bar  $i$  of the shape described, so that it will lie even with the cross-bar  $b^1$ , as shown and described for the purpose described.

Third, in combination with the reversible frame and shifting apron, the apron sticks with their middle portions enlarged, all as and for the purposes described.

Fourth, the employment, in combination with the reversible frame and removable sticks of a shifting apron made with a series of pockets, substantially as and for the purpose specified.

**67,557.**—H. N. KIMBALL, Watertown, N. Y.—*Bandage for Cheese.*—August 6, 1867.—Manila paper is used in place of cotton cloth as a bandage.

*Claim.*—The application and use of paper as a bandage in the manufacture of cheese, substantially as herein specified.

**67,558.**—JOHN H. KNAPP, New York, N. Y.—*Pencil Case.*—August 6, 1867.—The fluted tubes form repositories for leads; the pencil is projected by a sleeve attached to it through the elongated slot. When the cover is unscrewed from the other end a pen holder can be slid out.

*Claim.*—First, the plated tube  $b$  in combination with the shell  $a$  of a pen and pencil case, substantially as and for the purpose set forth.

Second, making the slide which serves to move the pen clamp or the pencil tube of such a length that it entirely covers up the slit  $f$  when the pen or pencil tube is moved back, as described.

Third, the arrangement of two removable caps or nuts  $h$  in combination with the fluted tube  $b$  and shell  $a$ , constructed and operating substantially as and for the purpose set forth.

**67,559.**—A. J. LOISEAU, Philadelphia, Pa.—*Machine for Cleaning and Bleaching Fibrous Material.*—August 6, 1867.—The rotating shafts within the case have radial teeth by which the material is blended.

*Claim.*—The combination of the rollers  $C C C$  provided with the straight or curved teeth  $G G$  enclosed in the perforated box  $A$ , having doors  $E F$ , the whole arranged and operating as and for the purposes herein described.

**67,560.**—PETER LOW, Cleveland, Ohio.—*Cooking Stove.*—August 6, 1867.—The bars are attached below to a perforated convex rim. The ends and back of the fire chamber have perforated ribbed plates, with a passage between them and the outer plates for the transmission of air to the fire.

*Claim.*—First, the grate furnished with the convex rim  $t$ , constructed as and for the purpose herein set forth.

Second, the adjustable flanged and perforated ribbed end pieces  $g$ , constructed in the manner herein described.

Third, the combination of the rim  $t$ , the end pieces  $g$ , and rim  $e$ , the whole constructed and operating substantially as herein described.

**67,561.**—JOHN McDONALD, New York, N. Y.—*Brick Machine.*—August 6, 1867.—The treadle depresses the top platen which acts in connection with the spring bottom of the mold, and the hinged platens which press the edges and ends of the brick. The hinged platens have upper connection to a fixed arm, and are pivoted below to the reciprocating slide, which causes their oscillation.

*Claim.*—First, in combination with the platen  $B$  or its equivalent, adapted to press the brick flatwise, the employment of levers adapted to press the bricks on their edges, as  $G^1 G^2$ , with or without the end-pressing lever  $H$ , substantially as herein specified.

Second, in connection with the above the within described method of operating said levers, that is to say, mounting the said levers on pivots  $g h$ , carried on the platen, and connecting the upper ends of the levers of the adjustable piece  $A^2$  or its equivalent, all arranged for joint operation as herein specified.

**67,562.**—W. A. McREYNOLDS, Elkton, Ky.—*Table Fan.*—August 6, 1867.—The weight is attached to a pendant on the reciprocating connecting rod to carry the crank over its centers. The attachment of the wrist pin to a radial slide pressed in by a spring tends to prevent jar, and to regulate the speed by altering the length of the fan sweep. The actuating weight is hung alternately to each end of a driving chain.

*Claim.*—First, the application of a weight  $H$  to the rod  $E$ , which drives the oscillating fan frame  $D$  from the crank wheel  $F$  of the train of wheels  $B$ , for the purpose of assisting the crank wheel past its center, substantially as shown and described.

Second, attaching the rod  $E$  to a slide  $I$ , placed in a radial groove  $e$  in the crank wheel  $F$ , with a spring  $f$ , bearing against the side, for the purpose set forth.

Third, attaching the chain or cord  $b$  at its center to the drum  $c$ , and having a hook secured to each end of the chain or cord to admit of the weight  $C$  being suspended to either end of the chain or cord, when said chain or cord drum and weight are used in combination with a train of wheels  $B$ , and a swinging or oscillating fan frame, substantially as and for the purpose specified.

Fourth, the combination and arrangement of the train of wheels  $B$  with the weight  $C$ , applied as shown, the oscillating fan frame  $D$  connected to the crank wheel  $E$ , and the weighted or loaded connecting rod  $E$ , substantially as and for the purpose set forth.

**67,563.**—JOHN MEEHAN, Newark, N. J.—*Tanning.*—August 6, 1867.—Hemlock-tanned leather is handled in the following for  $2\frac{1}{2}$  hours or more: "Double liquor" of oak tan, 260 parts; muriate of tin, 1 part. The double liquor is made by pumping the extract of one leach on fresh bark and boiling down.

*Claim.*—The within described process of changing hemlock leather so as to obtain in good part the qualities and appearance of oak-tanned leather, substantially as herein specified.

**67,564.**—SMITH MILES, Fabins, N. Y.—*Portable Fence.*—August 6, 1867.—The panels are supported by braces which engage the upper rail and the connection posts are attached by a bolt and nut.

*Claim.*—The peculiar construction and arrangement whereby each length may be supported at one end by two lateral braces, and at the other by being bolted endwise to the braced end of the next panel on level land, as shown in Fig. 1, and connected by bolting sidewise as shown in Fig. 2, for rolling land, substantially as and for the purpose described.

**67,565.**—PHILO H. MUNSON, Franklin township, Pa., assignor to himself and ELIAS BRECHT, Storeltonia, Pa.—*Washing Machine.*—August 6, 1867.—The shaft of the grooved roller is weighted by rods that hook over it and connect with a weighted lever. The roller is rotated or oscillated on the series of rollers on a segmental removable frame in the suds box.

*Claim.*—The arrangement of the small rollers  $r'$ , with the crank roller  $A$ , pressed down by the lever weight and their connections, all constructed and operated substantially as described.

**67,566.**—JOHN M. MYERS, Louisville, Ky.—*Breast Collar and Spreader for Double Harness.*—August 6, 1867.—The stretcher bar has supporting



loops on which it is nearly balanced, and the bar is traversed by a ring to which the neck yoke strap is hung.

*Claim.*—First, construction and arrangement of the looped arms *e e* upon the collar A, for receiving the neck straps as herein described.

Second, the attachment of the pole-strap loop *d*, so that it is allowed to have a free lateral play on the bar C, substantially as described.

**67,567.**—JOHN J. NEWMAN, Middletown, Ohio, assignor to ERWIN WILSON & Co., Middletown, Ohio.—*Clothes Dryer.*—August 6, 1867.—The striding frame supports the horizontal frame, and they are so jointed as to fold into a parallel position.

*Claim.*—The combination of the hinge J, the arm F, and pins E and G, when used in connection with a clothes-horse rack, substantially as and for the purpose set forth.

**67,568.**—ISAAC C. NICHOLS, Union, N. Y.—*Beef-steak Preparer.*—August 6, 1867.—The three corrugated rollers meshing into each other are actuated by a hand crank. The sliding side board and apron convey the steak to and from the rollers.

*Claim.*—First, the rollers D E F, when constructed and placed in the relative position to each other, as and for the purpose set forth.

Second, in combination with the above the sliding apron *b*, and sliding guide board C, as and for the purpose described.

**67,569.**—D. P. NICKERSON, Cleveland, Ohio.—*Windlass.*—August 6, 1867.—The capstan shaft has two bevel wheels of different diameters, either of which may be connected with a horizontal shaft having screw gearing connection with a windlass. This connection is made by sliding bevel wheels operated by levers.

*Claim.*—First, the crown wheel C, wheels H J, and lever or shifter P', in combination with the wheel J', worm L, and windlass M, as and for the purpose substantially as set forth.

Second, the wheels D I, shifter P', and wheel J, as arranged in combination with the wheel J', worm L, and windlass M, for the purpose and in the manner as herein described.

Third, the herein described windlass when arranged, so that by shifting the gearing in the manner as above set forth, the power of the windlass is thereby increased; also, by reversing the above rotation of said gearing the power will be decreased but the speed augmented, thereby adapting the action of the windlass to moving heavy or light bodies, substantially as specified.

**67,570.**—W. N. NIVER, Scott, N. Y.—*Sleigh Brake.*—August 6, 1867.—By turning the crank attached to the roller the chain operates the double-action dog break.

*Claim.*—An improved brake for sleighs, formed by the combination of the lever dog E, chain H, roller F, and lever G, with each other, substantially as herein shown and described, and for the purpose set forth.

**67,571.**—AARON B. NOTT, Fair Haven, Mass.—*Swing.*—August 6, 1867.—The platform is suspended from a beam supported on the posts to which it is connected by double rockers with pivot hinges and spring return action. The rods with rings attached hang from the beam, to assist in starting the swing.

*Claim.*—First, an improved swing, formed by the combination of the double rockers D F and E G, with the supporters A B, and with the frame J, from which the platform K is suspended by the timbers L, substantially as herein shown and described.

Second, the combination of the springs *o* with the double rockers D F and E G, substantially as herein shown and described, and for the purpose set forth.

Third, the hinge I, by means of which the movable rockers F G are pivoted to the stationary rockers D E, constructed substantially as herein shown and described.

Fourth, the combination of the rod N with the frame J and cross-bar H, substantially as herein shown and described, and for the purpose set forth.

**67,572.**—E. H. OLMSTEAD, Savannah, Ga.—*Railway Car Seat.*—August 6, 1867.—When the seats are turned over in the form of a couch, the arms, resting on the floor, act as legs.

*Claim.*—The construction and arrangement of the arms of the seat, as at *c*, when said seat is hinged in the manner and for the purpose herein described.

**67,573.**—T. G. PACKER, Mexico, N. Y.—*Broom Head.*—August 6, 1867.—The straw is clamped between the lunate bars of the head, and enclosed by the loops, which are held by transverse hooks.

*Claim.*—The combination of the concavo-convex crescent-shaped cap A, arms D, binding loops or bands E, hooks F, screw G, binding bar H, and thumb nut I, with each other, substantially in the manner herein shown and described and for the purpose set forth.

**67,574.**—J. C. PALMER, New York, N. Y.—*Rudder.*—August 6, 1867.—The rear part of the rudder has two metallic side strips hinged to the rudder by inclined bars. The metallic plates may be raised by a chain passing upward, when the bars assume a horizontal position, and the plates are extended backward, to increase the size of the rudder.

*Claim.*—A rudder so constructed that it may be extended in the manner and for the purpose substantially as described.

**67,575.**—NOYES PALMITER, Scott, N. Y.—*Washing Machine.*—August 6, 1867.—To the bottom slats are secured a series of ribs. The swing bar of the movable board is pivoted in the upright, and the suspension bar is a pivoted attachment near the board, which has conical ribs secured to its under side. The board is actuated by a hand crank whose shaft connects by bevel wheels and pivoted rods to the swing bar.

*Claim.*—First, the arrangement of the box A, with its slots *z z*, and ribs *a a a*, when used in combination with board *b*, with slots and rib *a'*, in the manner and for the purposes specified.

Second, the arms B B, constructed as described, and connected to the washboard, when operated by means of the shaft S, wheels F m, crank *p*, and pitman *g*, when combined and used for the purposes set forth.

**67,576.**—FRANCIS S. PEASE, Buffalo, N. Y.—*Apparatus for Carbureting Air.*—August 6, 1867.—The carbureting apparatus and the air pump are within the holder which contains the compressed air. The air, condensed by the pump and stored in the reservoir, passes through the carbureter and a gas regulator to the burner. The air is injected at the lower portion of the carbureter, and ascends in contact with the under surface of a series of inclined planes, with flanged edges and ends, passing from one incline to another, in a zigzag, upward course, to the chamber from whence it is drawn for use.

*Claim.*—First, the combination of the strong-air reservoir, the air pump, and the carbureter, the latter two being contained within the former.

Second, the carbureter constructed as described, with inclined flanged plates, in ascending zigzag series, with the air following their under surfaces, substantially as described.

Third, the regulator, constructed as described, consisting of the membrane J, the adjustable rod L, valve I, and the valvular opening, constructed and operating substantially as described.

Fourth, the inclined flanged plates E, with serrated edges, operating as described.

Fifth, the arrangement of the series of condensed air holders, constructed of air-tight casks, and combined with an air pump and carbureter, substantially as described.

**67,577.**—T. G. PELTON, Lyons, Iowa.—*Steam-engine Lubricators.*—August 6, 1867.—The oil duct has two spring valves, with a chamber between, through which the oil is passed by reciprocation of the side plunger.

*Claim.*—The combination and arrangement of the valves E and F and springs C and D, in connection with the pumps, arranged to operate substantially as above stated and for the purpose therein set forth.



**67,578.**—JOHN PEPPER, Lake Village, N. H.—*Portable Door Fastener*.—August 6, 1867; antedated July 30, 1867.—The smooth sides of the screws slide in between the door and jam, into which the notched edges enter on turning the screw.

*Claim.*—A portable door fastener, with tapering sides and edges, the sides being smooth for its easy insertion, and the edges nicked or toothed for taking into the wood when turned against it, to firmly hold the door, the whole made in one piece, small, compact, and easily carried, as set forth.

**67,579.**—OLIVER P. PETTENGILL, Topsfield, Mass.—*Sole Finishing Tool*.—August 6, 1867.—The tool head is a four-sided prism except at its guide, where it approximates to a frustum of a four-sided pyramid. A reversible edge block is applied to each face of the head revolving thereon, and has finishing ends of different sizes and shapes. The edge block is connected with the head by adjustable clamp screws.

*Claim.*—The combination and arrangement of the series of reversible blocks B B B B, each made with two separate finishing edges of different sizes, with quadrifacial or prismatic head A, constructed substantially as described.

Also, the combination and arrangement of the quadrifacial head A, the series of reversible finishing blocks B B B B, the metallic shank e, the handle C, and the counterbalance weight D, the whole being as specified.

**67,580.**—E. W. POSTON, Fort Wayne, Ind.—*Sand Ejector*.—August 6, 1867; antedated August 1, 1867.—The piston is chambered and has inwardly opening valves in its two disks, so that when moving in either direction the air is forced through the tubular piston rod and pipe to the discharge mouth.

*Claim.*—First, cylinder A and heads B B', in combination with piston E and piston rod F, the whole being arranged and constructed in the manner and for the purpose described.

Second, in combination with the above, the bent tube H, in combination with the distributing plates L and feeder I, all being constructed and arranged substantially as described and set forth.

**67,581.**—M. S. PRENTICE, Rockford, Ill.—*Washing Machine*.—August 6, 1867.—The plunger is attached to the head and reciprocated by the bell-crank levers, whose tops project above the lid when it is closed.

*Claim.*—First, the combination of the bent or bell-crank levers D with the arms e' of the beater C and with the box or tub A, to which their lower ends are pivoted, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the self-adjusting cheek board F with the beater or plunger C and with the box or tub A, substantially as herein shown and described and for the purpose set forth.

**67,582.**—T. K. REED, East Bridgewater, Mass.—*Gathering Device for Sewing Machines*.—August 6, 1867.—The device is attached to the presser foot. The upper and lower pieces of cloth are separated by a metallic tongue, so that the feed bar acts first upon the lower piece and gathers the same. The two pieces of cloth are then forwarded together beneath the presser.

*Claim.*—First, a gathering device, having a spring-bearing point outside the line of feed to deflect the cloth against a straight edge inside the line of feed.

Second, the combination of such a spring-bearing point with a separator, as described.

Third, the combination in a gathering device of a separator, a spring-bearing point outside the line of feed, and a straight edge, for the purposes set forth.

Fourth, a gathering mechanism, so constructed as to be attachable to the presser foot, and provided with a bearing point outside the line of feed.

**67,583.**—EDWIN REYNOLDS, Boston, N. Y., assignor to himself and JAMES A. WOODBURY, Winchester, Mass.—*Valve for Steam Engines*.—August 6, 1867.—The frusto-conical valves are actuated by rods whose anti-friction rollers enter a cam groove on a horizontal disk upon an outer sleeve having an inclined guide slot, receiving a stud upon the sleeve of the governor stem. The oscillation of the disk

from the changing elevation of the governor balls regulate the cut-off. The valves surround the seat, their larger and open ends being toward the cylinder. The stem is attached to the smaller end of the valve cap, and passes through a stuffing box and a guide socket, its operating arm being attached between the two.

*Claim.*—The construction of a valve in the form of a hollow cap, provided with suitable recesses and ports or openings for passages, when arranged to work upon a suitable projecting cap as a seat, also provided with suitable ports or passages, substantially as described, said caps being preferably made conical as a provision for wear.

Also, the compound cam, when constructed and arranged to operate substantially as described.

**67,584.**—H. C. REYNOLDS, Manchester, N. H.—*Machine for Shaving Axes*.—August 6, 1867.—The blade of the axe is placed on a reciprocating block whose lower surface is concave, resting on a convex stationary bed. The combined shape of the bed and reciprocating block in combination with the slightly vibrating knife determines the shape of the axe.

*Claim.*—The improved machine for shaving axes, constructed as described, consisting of the convex bed A, concave reciprocating slide F, cutters II upon the handle I, placed between the bars K K, all operating substantially as herein shown and described.

**67,585.**—GEO. W. ROBBINS, Fond du Lac, Wis.—*Bed Bottom*.—August 6, 1867.—The slatted frame rests on curved springs at the end, and spiral springs in the middle, the whole resting on board springs beneath.

*Claim.*—A bed bottom, consisting of the spiral springs C, slats D C, springs F, and spring boards G, when arranged to operate as described and for the purpose set forth.

**67,586.**—LEANDER RODNEY, New York, N. Y.—*Printing Press*.—August 6, 1867.—Both edges of the paper are gripped to the cylinder. The cylinder journals are carried by belts, on pulleys near the ends of the frame, and pass over the upper and lower series of forms. The rollers have gear wheels traversing longitudinal racks by which their rotation is regulated. Between the forms are spaces for inking rollers, which are automatically carried over the forms and returned. The rollers may carry various colors.

*Claim.*—The combination herein described, consisting of the rotating impression cylinders advancing continuously in one direction, counterbalanced and passing over a series of stationary forms placed in right lines in two rows, one over the other, substantially as and for the purposes herein set forth.

**67,587.**—CHARLES E. ROPER, Canton, Ohio.—*Machinery for Cutting Bevel Gears*.—August 6, 1867.—The wheel is supported on the oscillatable pivot block, and the cutter reciprocated upon its beveled face. The actuating connections of the cutter are pivoted to a fixed post and a revolving crank pin.

*Claim.*—First, the combination of the slide L, the sliding platform M, the box N, and the swivel block O, constructed and used in the manner and for the purpose set forth.

Second, the combination of the piston B, box C, plate D, arm E, provided with the tool R, the bar F, and standards G, constructed and arranged substantially as and for the purpose set forth.

**67,588.**—H. ROSENTHAL, New York, N. Y.—*Paint Brush*.—August 6, 1867.—Before the confining ring is moved up into place the space between the bristles is filled with a mixture of sand, ashes and chalk. The cement is then applied and the ring forced up to place.

*Claim.*—The application of dust or sand to the upper ends C of the bristles before cement is applied, whereby the spaces between said bristles are completely filled, and the end C made solid and prevented from being compressed and withdrawn from the ferrule, as herein set forth for the purpose specified.

**67,589.**—ABRAM ROWE, Macomb, Ill., assignor to himself, CHARLES CHANDLER, and JAMES DUNCAN, same place.—*Steam Generator*.—August 6, 1867.—The generator is frusto-conical in form, and has a



series of annular concentric steam chambers above the furnace and surrounding a central fire space. The caloric currents pass up between the steam chambers, and have horizontal exit with the central current beneath the crown plate.

*Claim.*—A steam boiler consisting of a series of concentric chambers *e*, opening at their upper end directly into a steam chamber and provided with the smoke flues *a*, of a constantly increasing area from the center outward, said chambers being connected by the lateral tubes or water passages *m*, all constructed and arranged substantially as shown and described.

**67,590.**—E. SAFFORD and O. H. MASTERS, Boston, Mass.—*Guide for Sewing Machines.*—August 6, 1867.—The springs are adjustably attached in slotted plates secured by clamps, and pressing on the fabric, guide it while traversing the table.

*Claim.*—One or more adjustable springs D, with or without the plate G, in combination with the gauge B, operating substantially as and for the purpose set forth.

Also, the slotted plates *a*, in combination with the gauge B and the clamping screw C, or its equivalent, substantially as and for the purpose set forth.

**67,591.**—J. A. SAWYER, Worcester, Mass.—*Thread Holder and Cutter for Sewing Machines.*—August 6, 1867.—The wax thread when about to be cut is tightened, and the knife is actuated by the spring-adjusting lever.

*Claim.*—First, the combination with the table of a wax thread sewing machine of a thread-holding device, to enable the operator to draw up the last stitch, substantially as set forth.

Second, the combination with the table of a wax thread sewing machine of a thread holder and a knife, substantially as and for the purposes set forth.

Third, the combination with the movable piece C and knife G of the handle D, substantially as set forth.

Fourth, the combination with the table A and lever D of the adjustable block F and spring *f*, substantially as and for the purposes set forth.

Fifth, the combination with lever D of the spring catch I, substantially as and for the purposes set forth.

**67,592.**—RUDOLPH SCHMIDT, New York, N. Y.—*Steam Pump.*—August 6, 1867.—The piston and pump plunger are united by one piston rod and actuated in connection. The vertical rod has collars attached and is operated by the piston of the cylinder, opening and closing the ports for the admission and exhaust of steam. The stuffing box is screwed into the chamber around the plunger.

*Claim.*—First, the arrangement of the pistons *e e* and small piston *e'* upon the rod sliding in the steam chest G, the vertical rod *h*, with collars *i i'*, operated from the piston D, substantially as shown and described, whereby the ports for the admission and exhaust of steam are opened and closed, as and for the purpose specified.

Second, the arrangement of the stuffing box F, whereby the two cylinders are separated, substantially as shown and described.

**67,593.**—GEORGE B. SCRIBNER, Indianapolis, Ind.—*Stove Lid Lifter.*—August 6, 1867; antedated August 1, 1867.—A stove lid lifter, nail extractor, and hammer are combined and attached to one handle.

*Claim.*—The combination of the several parts A B C D E, arranged and formed substantially as and for the purpose set forth.

**67,594.**—SAMUEL H. SCRIBNER, Stowe, Vt.—*Combined Churn and Butter Worker.*—August 6, 1867.—The hand crank actuates the dasher, which is secured to the shaft with set screws and can be removed for the substitution of the butter worker. The cross-arms of the butter worker have two curved bars with beater attached, and have rollers adjustably connected in elongated slots at the ends of the remaining bars.

*Claim.*—First, the churn dasher C, constructed of the crosses *d d'*, provided with cross-pieces *d<sup>3</sup> d<sup>3</sup>* set diagonally to the center, each four of the same being in line with and parallel to each other, constructed and arranged as described.

Second, the butter worker dasher *d*, constructed of

the cross *k k'*, beaters *m m*, and adjustable rollers *n n*, substantially as and for the purposes set forth.

**67,595.**—S. F. SEELY, Sylvania, Ohio.—*Cultivator and Plow.*—August 6, 1867.—The line of draft is regulated by the sliding link in combination with the share and wings, which are adapted to constitute it a cultivator or hilling plow.

*Claim.*—The jointed draft rod I, adjustable link G, beam A, standard C, with oblong slot *d*, brace D, handles B, share E, wings F, cross rod *c*, and brace rods *a\**, combined, arranged, and operated substantially as described for the purpose specified.

**67,596.**—LYMAN M. SEVERANCE, Dixon, Ill.—*Platform Scale.*—August 6, 1867.—The levers supporting the platform are hung at their outer ends with clevises and links, and are suspended at the reverse end at the rear side of the platform by a rod connecting with the scale beam.

*Claim.*—The combination of the four levers D D E E, when arranged with respect to the platform and its permanent frame and the rod F, substantially in the manner and for the purpose herein specified.

**67,597.**—HENRY SIDLE, Minneapolis, Minn.—*Washing Machine.*—August 6, 1867.—The handle actuating the oscillating bevel wheel gears into the bevel wheel of the rotating shaft, from which project the angular arms that stir the clothes.

*Claim.*—The shaft B, provided with its angular arms C C and beveled cog wheel D, and operated by means of the wheel E between the frames G and H, with its handle F, in the manner and for the purposes set forth.

**67,598.**—JOHN THOMAS SIEGERT, Washington, D. C.—*Heel Measure.*—August 6, 1867.—The measure has a projection which engages the front of the heel, and a spring slide that indicates the measure.

*Claim.*—The measure A, with its curved point B, and its adjustable flat side C, with its flat spring D, when constructed, combined, and operated as herein described and for the purposes set forth.

**67,599.**—WILLIAM H. SKERRETT, Cincinnati, Ohio.—*Ice Cream Freezer.*—August 6, 1867.—The cream cylinder is secured within the ice cylinder, and is rotated by the hand-crank wheel, to whose shaft it is attached.

*Claim.*—The cylinders B and C, revolving on the axis *y*, in combination with the driving wheel or governor I, substantially as and for the purpose described.

**67,600.**—E. SMITH, Farmington, Ill.—*Cherry Stoner.*—August 6, 1867.—As the cherries are furnished by the supply passage the hollow perforated needles cut out the stones, which are discharged from the opening in the top of the needle.

*Claim.*—The inclined box A, in combination with slide H carrying needles L and discharge bar M, substantially as and for the purpose described.

**67,601.**—JOHN STEPHEN, Womelsdorf, Pa.—*Pastry Cutter.*—August 6, 1867.—The projecting cutters and prints rotate on their arms and cut and print pastry in various forms. The fork forms a perforator and the corrugated plate a superficial printer.

*Claim.*—The rod A provided with fork B and print C upon its ends and provided with four arms *a a a a* projecting from its sides, said arms having arranged wheels D D E F, and cutter G and plain wheel H, all constructed, arranged, and used as herein set forth.

**67,602.**—JOHN STEPHEN, Womelsdorf, Pa.—*Ladies' Thimble.*—August 6, 1867.—The radiating grooves arrest the needle if it slips from the indentations and retain it by the groove in the flange.

*Claim.*—A thimble provided with the radiating grooves *x x*, and at their ends with the grooves in the ring or flange *e*, substantially as and for the purpose herein specified.

**67,603.**—JOHN STEPHEN, Womelsdorf, Pa.—*Pot Hole Lid for Cooking Stoves.*—August 6, 1867.—The concavo-convex lid has openings that are closed by a damper pivoted in the center.



*Claim.*—The use of the lid A, concave at its top and convex at the bottom, with its damper plate A' and circumferential flange e with the stove G, in the manner as specified.

**68,604.**—WASHINGTON STICKNEY, Lockport, N. Y.—*Bed Bottom.*—August 6, 1867.—The slatted bottom is suspended by rubber loops that passing through slotted brackets engage keys above.

*Claim.*—The brackets or supports e e e, india-rubber loops e e, keys g g g, rods h h and d d, in combination with a bed bottom, constructed substantially in the manner and for the purpose herein set forth and described.

**67,605.**—JAMES T. STILWELL, Dowagiac, Mich., assignor to himself and E. P. TOWNSEND.—*Faucet.*—August 6, 1867.—The plunger is pushed to the far end of the cylinder, which is adjusted by the transverse lever attached thereto till the openings therein coincide with those in the sleeve. When the cylinder is filled it is returned to its former position, shutting the openings and opening the valve on the cock when the plunger is withdrawn. The pointer indicates the quantity.

*Claim.*—First, the cylinder B, constructed substantially in the manner described and used with the plunger G and its rod and the case H, as and for the purpose specified.

Second, the case H provided with the cock J and used with the rim wheel M and its pointer O, substantially as and for the purpose set forth.

**67,606.**—SENECA E. STRICKLAND, Amboy, Ill.—*Sash Fastener.*—August 6, 1867.—The movable jaw has slightly projected teeth next the casing and is actuated by a knob sliding in a slot in the boxing attached to the sash. A follower retains the jaw in position.

*Claim.*—A sash fastener formed by the combination of the parts A B C and D, respectively constructed and arranged to operate substantially as set forth.

**67,607.**—L. A. SUNDERLAND, Chagrin Falls, Ohio.—*Dairy Can.*—August 6, 1867.—The metallic supplementary bottom has radial arms with wooden and elastic lining and is secured to the bottom of the can by screws riveted to the can, which passing through caps below, are engaged by nuts.

*Claim.*—The supplementary bottom D with radial arms E, lining F, and central support or boss F', as arranged in combination with the can A, for the purpose and in the manner described.

**67,608.**—DAVID M. SWAIN, La Crosse, Wis.—*Boiler Water Gauge.*—August 6, 1867.—As the float sinks it operates a pivoted arm, which, opening the port, the steam enters and sounds the whistle. The shaft of the arm connects by gearing to that of a pointer which indicates the depth of water.

*Claim.*—The float A and its arm, the supports D, rod F, arm G, shaft b, segment d, pinion e, pointer P, spring S, arm H, and shoulder I, arranged and operating substantially in the manner and for the purposes specified.

**67,609.**—BENJAMIN C. TAYLOR, Dayton, Ohio.—*Horse Rake.*—August 6, 1867.—The tooth is hinged on the tubular projection of a flange which is attached by an axial bolt to the bracket.

*Claim.*—The bracket fastening B' constructed with one ear and a flange or housing extending from said ear in front and over the eye of the tooth in combination with the washer D', substantially as and for the purpose described.

**67,610.**—NORMAN TEAL, Kendallville, Ind.—*Invalid Bed Attachment.*—August 6, 1867.—The supporting sheet is wound on rollers at the head and foot of the bed and has a slit to allow access to wounds on the body, or passage for fecal discharges. The slit is covered by a fly.

*Claim.*—First, a sick-bed attachment attached to an ordinary bedstead, substantially as described for the purpose specified.

Second, the sheet I provided with the slit K and fly J, in combination with the adjustable rollers d d

and frame F, substantially as described for the purpose specified.

Third, the combination of the cross-pieces C, bands H H', rollers b b', frame F, provided with hinged legs, slit sheet I, with fly J, and adjustable rollers d d, substantially as described for the purpose specified.

**67,611.**—ISAAC P. TICE, New York, N. Y.—*Spirit Meter and Registering Apparatus.*—August 6, 1867.—The receiving chamber has an exit pipe for escape of air, and a valve preventing the escape of liquor. From the former receiver the liquor passes to a transparent receiver, from which it may be directed by cocks to the meter or doubler as high or low wines may be running. When the measuring can is nearly filled, its weight moves the lever on which it is suspended, and nearly closes the supply by the spout by the descent of the valvular box, so as to complete the filling by a small stream. A small amount of sample liquor is abstracted at each motion of the measurer. The locked sample cock has a check valve preventing injection of water into the sample chamber to lessen the strength. On flooding the meter for surreptitious purposes a valve is released and stops the outflow. Other devices are explained by the claim and illustration.

*Claim.*—First, the connection substantially as herein described of the meter with the worm of the still, by means of a blow-off pipe of close character, and provided or operating with a valve that admits of expulsion of the air without giving motion to the measurer, but is self-closing on the flooding of the meter to prevent escape of the liquid at or through said pipe, as specified.

Second, the overflow pipe or spout D, for operation in connection with valvular box I, or its equivalent, to limit or regulate the finishing supply to the measuring can or cans, essentially as herein set forth.

Third, the combination of the beam H, rack l, and pinion k, for action of the sample taker J, as described.

Fourth, the application of a check valve to the sample can to prevent injection from the exterior, substantially as specified.

Fifth, the combination with a meter of a detector valve M, of suitable description, for operation in the manner and for the purpose herein set forth.

Sixth, the application to a meter of an index operated by a float on any undue accumulation of liquid in the meter.

Seventh, the combination of a roller stop Q to the measurer G of a meter, essentially as and for the purpose herein set forth.

Eighth, in the registering apparatus of a meter, communicating motion to the several indices which denote the multiples, by means of a shaft S, having screw threads r of different pitch and gearing with worm wheels T of a corresponding pitch.

Ninth, the application to a meter of a proof tester for operation in connection with the registering apparatus of quantities, and serving, by means of a weighing can, beam, and independent weights, or their equivalents, to actuate a suitable registering apparatus of specific gravities, essentially as specified.

Tenth, the attachment to a proof tester, operating substantially as described, of the thermometric weight adjuster for automatically adjusting said tester to the variation in weight of a given volume of liquid by fluctuations in the temperature of the latter affecting its specific gravity, substantially as specified.

Eleventh, controlling the registering apparatus of specific gravities by means of a templet G' operating in connection with the devices in gear with the registering apparatus of quantities in a meter, essentially as herein set forth.

Twelfth, the use of enameled iron or other metal in the construction of the meter safes and for the reservoirs and constructing pipes of the same.

**67,612.**—MARY L. TREADWELL, New York, N. Y.—*Frame for Mosquito Nets.*—August 6, 1867.—The frame is laterally extensible and its parts detachable to admit of use on different-sized bedsteads, to support the net, or to be carried in a trunk.

*Claim.*—The detachable frame for mosquito nets constructed as described, consisting of the supporting rods B B, sockets e e', vertical rods C, having sockets d, covered rods D, and horizontal rods E, with perforated and slotted ends, upon the tops of the rods C D,



parallel rods F F', having guides *f* and hooks *h*, all arranged as described for the purpose specified.

**67,613.**—JAMES TREES, Greensburg, Pa.—*Hose Nozzle*.—August 6, 1867.—The nozzle has a frustro-conical form, and contains a double conical core concentric with it, allowing an annular water-course between. The cone has thin supports standing out radially and entering grooves in the pipe.

*Claim.*—The combination, substantially in the manner described, with a pipe or nozzle of uniform taper, of two cones arranged base to base concentrically within the pipe.

**67,614.**—JAMES TREES, Greensburg, Pa.—*Water Pipe*.—August 6, 1867.—The object is to increase the rapidity of flow. The devices are explained in the claim and illustration.

*Claim.*—First, a pipe composed of frustra of cones of alternately varying inclination, arranged base to base, substantially in the manner and for the purpose described.

Second, the combination, substantially in the manner described, with a pipe composed of frustra of cones arranged base to base, of a corresponding series of cones arranged concentrically within the pipe, for the purpose set forth.

**67,615.**—CHARLES A. VAN HORN, Chenango, N. Y.—*Churn*.—August 6, 1867.—The dashers on one rod are reciprocated beneath a perforated diaphragm by a crank.

*Claim.*—The arrangement of the gear frame G G in combination with the dashers D and E and perforated disk F, all being constructed and arranged substantially as set forth.

**67,616.**—LOUIS VON FROBEN, Washington, D. C.—*Nutmeg Grater*.—August 6, 1867.—The nutmegs are placed beneath the spring follower which presses against the grated periphery of the rotating grater.

*Claim.*—The hollow cylinder G, provided with openings *g g* in one end thereof, and journaled in the elongated lugs or legs F F, in combination with the said legs F F, tube A, sliding piston B, finger pieces D D, and screen J J, the whole constructed and arranged in the manner and for the purpose specified.

**67,617.**—D. F. WALLACE and D. T. COCKERILL, Ripley, Ohio.—*Churn Dasher*.—August 6, 1867.—The dasher is bell-shaped and its projections are made perpendicularly through its sides.

*Claim.*—A churn dasher, in form substantially as set forth, when provided with the openings *a a a*, so arranged that the several axis of each of the groups *h h h* shall converge outwardly, as and for the purposes specified.

**67,618.**—JOSEPH WATROUS, Jr., Mystic River, Conn., assignor to THE MYSTIC RIVER HARDWARE MANUFACTURING COMPANY.—*Coffee Mill*.—August 6, 1867.—The hopper has a lip on the outer side taking under a projection on the conical plate of the concave; the sides of the hopper lie on the same plate. Its inner side is held down by an outcurved lip of the back plate.

*Claim.*—Attaching the basin-shaped hopper *f* to the conical case or shell of the mill by the lip *i*, hooked flange *c*, and inclined projection *n*, as specified.

**67,619.**—SAMUEL WHITAKER, Macon, Ill.—*Burglar Alarm*.—August 6, 1867.—A detent arm of the pallet is engaged by a trigger attached to a hinged plate which has a cord connection to the door handle by which the detent is sprung.

*Claim.*—The arrangement of the box A, with its door I, rod J, shaft *x*, with its rod K, pallet G, and arm H, bell D, and respective parts for operating the same, when constructed, arranged and used in the manner substantially as and for the purposes set forth.

**67,620.**—R. W. WHITNEY, South Berwick, Me., and JUDSON W. SHAW, Concord, N. H.—*Hat Hook for Pews*.—August 6, 1867.—The hinged hat-support is let down for use, its lower corners engaging notches in the bracket, and when unused it is folded up to the pew back.

*Claim.*—First, the flanged bracket in combination

with the folding hook, arranged and operating substantially as described.

Second, the hook C, arranged to turn upon a horizontal pivot in bracket A, and provided with the stop *c*, operating in combination with said bracket, substantially as described.

**67,621.**—S. LLOYD WIEGAND, Philadelphia, Pa.—*Steam Generator*.—August 6, 1867.—A series of vessels are connected together and have double concentric tubes descending therefrom into a fire chamber. The lower ends of the pipes are covered and kept in proper relative position by screw caps. The inner pipes may be of different metal to the outer, to cause galvanic action.

*Claim.*—First, the combination of the external and internal tubes as described with the vessels into which they are inserted and the perforated plate or plates, as described.

Second, the construction of screw caps M, as shown and described.

Third, the making of the internal and external tubes of different metals, so as to produce a galvanic action thereby.

**67,622.**—STEPHEN M. WIRTS and F. SWIFT, Hudson, Mich.—*Combined Lantern and Foot Warmer*.—August 6, 1867.—The case contains a lamp and has two doors, one of which has a glass frame. The other door is connected to the opening side of a metallic, cloth-lined box above the lamp. The opening of this latter door opens the box and provides space for the feet.

*Claim.*—First, the arrangement of the box A, with case I, lining J, plates H and *a*, and door C, as constructed, substantially as and for the purpose specified.

Second, the door B as constructed when arranged in combination with the foregoing, for the purpose of forming a lantern and foot warmer, substantially as set forth.

**67,623.**—GEORGE E. WOODBURY, East Cambridge, Mass.—*Planing Machine*.—August 6, 1867.—Improvement on the patents of H. Snow, November 21, 1854, and James A. Woodbury, June 8, 1858. The mouth-piece has lugs sliding in slots of the cutter frame, so curved as to limit the edge of the mouth-piece to a course concentric with the cutter axis and to keep it in immediate proximity to the cutters while being raised or lowered by thicker or thinner planks.

*Claim.*—Adjusting the month-piece *f* of a planing machine in relation to the edges of the cutters by attaching the former to a movable frame *h*, which is hung or pivoted so as to operate substantially in the manner and for the purpose specified.

**67,624.**—JOHN E. WOOTEN, Cressona, Pa.—*Rivet*.—August 6, 1867.—The tubular rivet is made like a ferrule, the strip of iron being cut lengthwise of the grain and then welded. It may be riveted by a spreader.

*Claim.*—First, a tubular rivet made by coiling a strip of iron and then welding the same, as set forth.

Second, a tubular rivet in which the grain of the iron takes a transverse course at right angles or thereabouts to the axis of the rivet, as described, for the purpose specified.

**67,625.**—WILLIAM E. ANDREWS, Cambridge, Mass.—*Spice Box*.—August 13, 1867.—The drawers are secured from opening by the projected strips that engage the prolonged front of the drawer. The cheek on the back of the drawer arrests its withdrawal.

*Claim.*—First, as a new article of manufacture a portable set of spice drawers, made substantially as described and for the purposes set forth.

Second, the combination of the extension F of the front of the drawer with the holder H, for the purpose set forth.

Third, the combination as well as the arrangement of the extension E of the piece forming the inner end of the draw with the case or box A B, when the whole is made substantially as described and for the purpose set forth.

**67,626.**—JOSEPH ANTHONY, Greenbush, N. Y.—*Joint Splice for Railroad Rails*.—August 13, 1867.—A piece of double T-shaped railroad iron is secured



to the rails by open link bolts, and the joints are laterally secured by bolted plates.

*Claim.*—First, the combination of the rails A A, the splice rail C and the open link bolts E.

Second, the combination of the rails A A, the splice rail C, the open-link bolts E and the beveled washers o.

Third, the combination of the rails A A, the splice rail C, the open-link bolts E and the beveled washers o, and the fish plates F.

**67,627.**—G. P. BARNUM, Marion, Iowa.—*Ointment for Horses.*—August 13, 1867.—For cure of ring-bone: quicksilver, 8 oz.; nitric acid, 4 oz.; cantharides, 4 drachms; corrosive sublimate,  $\frac{1}{4}$  oz.; red precipitate,  $\frac{1}{2}$  oz.; and oil of vitriol, 4 oz., added in small quantities.

*Claim.*—The compound, consisting of quicksilver, nitric acid, pulverized cantharides, corrosive sublimate, red precipitate, and oil of vitriol as an ointment to remove blemishes from horses and other animals, substantially as herein set forth and described.

**67,628.**—RILEY BRATTON, Oscaloosa, Iowa.—*Wagon Bed.*—August 13, 1867.—The metallic standards on the side boards engage with staples on the bottom bars of the bed.

*Claim.*—An improvement on ordinary wagon beds, as herein described, consisting of metallic standards with hooked ends fastening in staples, and the peculiar form of standards and location of staples, as an invention, by which a wagon bed may be easily and quickly taken apart and put together.

**67,629.**—H. H. BRYANT, Boston, Mass.—*Filling for Safes.*—August 13, 1867.—Moistened sponge is used for filling to dampen the powder used as an explosive in attacks on the safe.

*Claim.*—The use of sponge as a filling for a safe or other structure of a similar nature, or any other porous and absorbent substance that is its substantial equivalent, as and for the purpose herein set forth.

**67,630.**—J. E. BURDGE, Cincinnati, Ohio.—*Adjustable Rest for Lathes.*—August 13, 1867.—The end of the adjustable tool rest is hinged to the slide rest, and is regulated by the wedge-shaped block, actuated by a screw.

*Claim.*—Hinging one end of the tool block F to the transverse sliding head C<sup>1</sup> by a bolt c, and raising and lowering the other end of the tool block F by means of a wedge D, or an equivalent device, whereby the cutting edge of the tool H may be raised or lowered as desired, while the lathe is in motion or otherwise, and presenting it in a proper position to the material being turned, substantially as described.

**67,631.**—JOHN H. BURRELL, Jr., Charlestown, Mass.—*Carriage Coupling.*—August 13, 1867.—When the butting ends are engaged the drop pin holds them in position.

*Claim.*—A coupling made of the three parts A B and C, substantially as described and for the purpose set forth.

**67,632.**—JOHN K. CALDWELL, Pittsburg, Pa.—*Brick Car.*—August 13, 1867.—The shelves are pivoted to and removable from the standards of the car, and may be folded up to the same, in which latter position they are held by the spring catch.

*Claim.*—First, hinging the shelves of a car for drying brick, fruit, grain, and other articles requiring such treatment to an upright standard, or to upright standards, such standard or standards being attached to and supported by a truck or car frame, substantially as and for the purposes hereinbefore set forth.

Second, a spring h with a beveled catch i, attached to a standard d, in combination with a shelf or with shelves f f', which it is designed and adapted to retain in an upright position, substantially in the manner and for the purposes above set forth.

**67,633.**—BENJAMIN F. CARLETON, Nashua, N. H.—*Window Fastening.*—August 13, 1867.—The button has longitudinal motion on its pivot screw, and an inclined side, which by the gravitation of the button acts as a friction hold to the sash. A cavity of the button engages a projection of the sash to lock the latter.

*Claim.*—The combination of the button E with the

spring R, when made and arranged substantially as described and for the purpose set forth.

**67,634.**—L. COLEMAN, New Orleans, La., assignor to WILLIS P. COLEMAN, same place.—*Harrow.*—August 13, 1867.—The frame is supported on wheels, and is adjustable thereon. Two rotating shafts carry serrated disks. The rear disks are cleared by spring fingers projecting forward from a transverse bar.

*Claim.*—First, the combination of the two series of revolving disks B B B and C C C, or their equivalents, when the same are constructed and arranged substantially as described for the purpose set forth.

Second, the two series of revolving disks B B B and C C C, in combination with the sliding standards K, lever E, arm P, rock shaft N, handles F and frame J, when these several parts are constructed and arranged with respect to each other and to the clearers D D D, as described for the purpose set forth.

**67,635.**—E. H. CRAIGE, Brooklyn, N. Y.—*Cloth Plate for Sewing Machine.*—August 13, 1867.—Explained by the claims and illustration.

*Claim.*—First, in the Wheeler & Wilson and other sewing machines with raised and movable cloth plate, the combination with the cloth plate A of a throat piece B that extends over the feeder and furnishes an opening by which the feeder may be removed and the running parts cleaned and oiled without removing the cloth plate, as set forth.

Second, in the Wheeler & Wilson and other sewing machines with a raised and movable cloth plate, any throat piece which is held in place at one part by a lip a, or its equivalent, and at the opposite part by one or more buttons or catches b, substantially as and for the purpose shown and described.

Third, the arrangement on the under side of the throat piece B of one or more buttons or catches in combination with screws or rivets passing through to the upper surface, by means of which, with a screw driver or key, said buttons can be turned, substantially as and for the purpose set forth.

**67,636.**—CHARLES CROLEY, Dayton, Ohio, assignor to American Ladder Co., Hamilton, Ohio.—*Ladder.*—August 13, 1867.—Used as a "step ladder" by a gudgeon on each side entering notches in the brackets, and as a long ladder by sliding down the hooked cheeks and engaging one of the round steps over the upturned lip of the upper flat step.

*Claim.*—The combination of the gudgeons l and notched bracket K k, constructed and arranged as described, in connection with the troughed step J, and separable or hinged ladders A B, for the purpose set forth.

**67,637.**—JAMES M. DILLON, Wheeling, West Va.—*Steam Generator.*—August 13, 1867.—The feed water is forced through a pipe within the furnace and discharges into the steam space. When sufficient water has been received the circulation is kept up in the pipe by water from the mud-drum, an injector being used for this purpose.

*Claim.*—First, the pipe or pipes F, in combination with the T-joint H, hollow plug J, pipes E m, and mud-drum M, or their equivalents, substantially as described.

Second, the combination of the boiler B, pipes E F m, and mud-drum M, as and for the purpose set forth.

Third, the cock C, arranged and operating in combination with the pipes F m, and mud-drum M, in the manner and for the purpose specified.

**67,638.**—D. H. DOTTERER, Philadelphia, Pa.—*Axle Box and Hanger.*—August 13, 1867.—The axle box has trunnions fitted to sliding boxes adapted to guides in the hanger to render the box self-adjusting to allow its accommodation to changing position in the axle.

*Claim.*—First, an axle box provided with a detachable bearing E, a curved projection m, fitting a recess in an adjustable saddle, and with trunnions d d fitted for sliding blocks b, which are adapted to guides formed in the hanger, all substantially as described.

Second, the combination of the rounded projection m on the top of the box, with a saddle G adapted to the hanger, and having a cavity for receiving the



said projection, all substantially as and for the purpose herein set forth.

Third, the bearing E adapted to the journal of the axle, and having lugs or projections *n* fitting into recesses in the box, as set forth.

Fourth, the sliding cover *f* fitted to the top of the box for withdrawal from the same, substantially in the manner described.

**67,639.**—SEWALL H. DOWNS, Bangor, Me.—*Traveler for the Jib Boom of Vessels.*—August 13, 1867.—Explained by the claim and illustration.

*Claim.*—Providing the interior of the cap or box of the traveler for the jibs' boom with two or more rollers above, and two or more rollers below the bar, and affixed, substantially as set forth, to enable the traveler to move surely and easily along the bar without danger of binding and to decrease the friction upon the several parts, for the purposes and in the manner substantially as set forth.

**67,640.**—THOMAS G. ESTES, Fall River, Mass.—*Striking Gongs or Bells.*—August 13, 1867.—Clock-work is arranged in the gong to sound the same.

*Claim.*—The combination of gong A<sup>1</sup>, stand B<sup>3</sup>, knob C<sup>1</sup>, lever E<sup>3</sup>, dog F<sup>3</sup>, arm G<sup>2</sup>, hammer H<sup>2</sup>, and cam K<sup>4</sup> with the clock-work, as herein set forth and described.

**67,641.**—CHARLES E. FELTON, Buffalo, N. Y.—*Lock for Prison Door, &c.*—August 13, 1867.—The secondary bolt is supported in the enclosing shell by brackets and is connected to the main working parts of the lock by brace bars so that the key gives it a movement parallel with that of the common bolt. The enclosing case has a hinged, right-angled cover, the inner fastening of which is covered by the door when closed.

*Claim.*—First, the shell B having a hinged cover or door b<sup>1</sup>, in combination with a wall lock, substantially as set forth.

Second, securing the hinged cover b<sup>1</sup> between the iron door-frame G and shell B by means of the screws g<sup>2</sup> in such manner that the screw-heads are covered by the door when closed, substantially as described.

**67,642.**—JOHN B. FRANCIS, Barnesville, Ohio.—*Washing Machine.*—August 13, 1867.—The corrugated board is secured to elastic bands and a corrugated roller is rotated above it by a hand-crank.

*Claim.*—The combination and arrangement of the adjustable and jointed or hinged concave wash-board *a* and application thereof to the cylinder H by means of self-adjusting rockshaft S, cords, weight, and pulley F, in connection with the adjustable levers O O and E E, substantially as and for the purpose set forth.

**67,643.**—O. P. GARRETFON, Cincinnati, Ohio.—*Mop Head.*—August 13, 1867.—The flanged nut enters the groove of the loose jaw and screws upon the handle till it tightens the jaw.

*Claim.*—Making the collar of the loose jaw in two parts so that the nut *d d* may be placed between them, and when connected together the collar surrounds the nut and retains it in position, for the purpose above set forth.

**67,644.**—G. GILBERT and A. N. ALLEN, New Haven, Conn.—*Ironing Machine.*—August 13, 1867.—The elastic segmental bed is reciprocated beneath the iron holder.

*Claim.*—The segmental bed C arranged upon elastic bearings, and in combination with a polishing surface, constructed and arranged so that the said polishing surface may be heated, substantially as and for the purpose specified.

**67,645.**—HARVY GRAY, Bristol, Conn., assignor to ALBERT J. SESSIONS, same place.—*Manufacture of Trunk Rollers.*—August 13, 1867.—The frame is cast in one piece to avoid expense of attachments.

*Claim.*—As a new article of manufacture, a trunk roller with the frame *b* cast around the ends of the pivot or wire *c*, substantially as described.

**67,646.**—J. DURELL GREENE, Cambridge, Mass., and JOHN A. KAY, Columbia, S. C.—*Reverberatory and Cupola Furnace.*—August 13, 1867.—The func-

tion of the reverberatory furnace is to heat the metal to a high degree prior to its introduction to the cupola furnace, and by combining the two furnaces to utilize a large amount of heat which would otherwise be lost.

*Claim.*—First, the combination of an ordinary cupola for melting iron, or other metal, with a reverberatory furnace, substantially as and for the purpose described.

Second, the utilization of waste heat from the cupola to heat the metal prior to its introduction into the cupola, substantially as described.

Third, in combination with the cupola and a reverberatory furnace, a supplemental heating or reverberatory chamber, substantially as described.

**67,647.**—BENJAMIN GRIFFIN, Lawrence, Mass.—*Bed Bottom.*—August 13, 1867.—The slats are suspended by hooks from rods on the head and foot rails.

*Claim.*—The cross-wire D, when connected with the concaved bar, for the purpose set forth, and the swinging hooks, when combined with the slat for the purpose specified.

**67,648.**—CHARLES HAMILTON, New York, N. Y.—*Self-supporting Mucilage Brush.*—August 13, 1867; antedated August 1, 1867.—The brush is attached to the bottle by a metallic screw sleeve and has a tube through its center to supply the brush with mucilage. The cap covering the brush has a wire rod secured within it that passes through the tube and prevents clogging.

*Claim.*—An attachment to the cap or brush cover now in use of a piece of wire running from the center of the cap, inside, to an inch or so beneath its base, the wire passing, when the cap is on the bottle, through the tube or passage in the brush, in the manner and for the purposes herein substantially set forth and described.

**67,649.**—A. H. HART, Stockbridge, Wis.—*Bee-hive.*—August 13, 1867.—The ventilating holes communicate with the body of the hive and the other hole into the honey chamber. These holes may be covered by a button one end of which is perforated with holes too small to admit the moth. The drone trap permits the exit of drones but does not allow their return.

*Claim.*—First, the lathed and plastered walls H, in combination with the filled space I, as and for the purpose substantially as set forth.

Second, the special arrangement of the ventilating holes L L<sup>1</sup> and passage-way *a*, in combination with the honey chamber B and body of the hive A, as and for the purpose described.

Third, the adjustable bee-gauge block O<sup>1</sup> provided with the bee doors *f f*<sup>1</sup> as arranged in combination with the drone trap P<sup>1</sup> for the purpose and in the manner as substantially set forth.

**67,650.**—CHARLES H. HELMS, Poughkeepsie, N. Y.—*Heel Press for Boots, &c.*—August 13, 1867; antedated April 1, 1867.—The lever and compressor combine with an articulating joint to make the press direct acting. A reacting spring elevates the compressor. The elastic compensating rod relieves the articulating joint from the repellant force of the compressed leather.

*Claim.*—First, the combination of the articulating joint H with the plunger D and lever J, arranged and operating as hereinbefore set forth, for compressing the heels of boots and shoes.

Second, in combination with the plunger D and articulating joint H a reacting spring G, for the purposes hereinbefore set forth.

Third, the compensating rod made and operating substantially as hereinbefore set forth, in combination with the lever J, for the purposes described.

**67,651.**—BENJAMIN H. HIBLER, McKeesport, Pa., assignor to himself and PITTSBURGH & MCKEESPORT CAR COMPANY.—*Tuyere for Blast Furnaces.*—August 13, 1867.—The blast is discharged into the cupola near its center. The tuyere has apertures for the dissemination of the blast throughout the cupola.

*Claim.*—First, a tuyere consisting of a pipe or the prolongation of the blast pipe of a smelting furnace, when such tuyere extends into the cupola beyond the inner face of its wall or lining and to or toward the



center of the cupola, substantially in the manner and for the purposes above set forth.

Second, a tuyere having an elbowed head with a cap *d* projecting outward so as to cover the apertures *e e*, constructed and operating substantially as and for the purposes described.

Third, one or more apertures *c* in the lower side or face of the tuyere or tuyere pipe of the cupola of a smelting furnace so as to discharge a portion of the air of the blast against the molten metal in the bottom of the cupola, substantially in the manner and for the purposes above set forth.

**67,652.**—JAMES A. and HENRY A. HOUSE, Bridgeport, Conn., assignors to WHEELER & WILSON MANUFACTURING COMPANY.—*Feeding Device for Sewing Machines.*—August 13, 1867.—The interposed, adjusting, pivoted lever moves to or from the axis of the cam which gives an increasing movement as it recedes from its center. The feed is adjusted vertically by a lifting lever in the feed block.

*Claim.*—First, the vibrating feed-frame I constructed, arranged, and operated substantially as and for the purpose described.

Second, the combination of the vibrating feed frame with the adjusting lever and cam for the purpose of varying the length of the feed.

Third, the combination of the vibrating feed-block with the adjusting lever and set screw for the purpose of adjusting the feed vertically.

**67,653.**—JAMES A. and HENRY A. HOUSE, Bridgeport, Conn., assignors to WHEELER & WILSON MANUFACTURING CO.—*Tucking Gauge for Sewing Machines.*—August 13, 1867.—The tucking gauge is attached to the presser foot by fixed hoofs and an eccentric clamp, permitting its ready removal, adjustment, and replacement. The marking blade has a longitudinal adjustment in its supports and a short, vertical vibration that varies the width of the tuck.

*Claim.*—First, the attachment of the tucking gauge to the presser foot of a sewing machine by the hooks and eccentric clamp, for the purpose of readily removing and replacing the gauge without disturbing the glass of the presser foot.

Second, the marking blade having a vertical, a longitudinal, and a lateral adjustment in the presser foot, substantially as described.

Third, the combination, substantially in the manner described, of the marking blade and its ease spring and set screw.

Fourth, the combination, substantially in the manner described, of a marking blade having a vertical movement in its case with a buffer pad to deaden the shock of the head of the needle arm.

**67,654.**—JOHN C. HURSELL, Boston, Mass.—*Dovetail Cutter.*—August 13, 1867.—The adjustable cutter plates are confined in a radially split socket whose outer screw-thread receives a nut to clamp the said plates.

*Claim.*—A cutting tool constructed and arranged for operation, substantially as and for the purposes herein described.

**67,655.**—CLARK JILLSON, Worcester, Mass.—*Screw-cutting Machine.*—August 13, 1867.—The two corresponding gears run in opposite directions. When the lever is depressed the die holder is rotated and the presented end of the rod is engaged by the thread which draws it into the die and cuts the thread on it. When the thread is cut, by raising the lever the die holder is actuated in an opposite direction and discharges the screw.

*Claim.*—First, in a machine for cutting screws, the combination of the die holder with the mechanism for rotating the same, arranged substantially as and for the purposes herein described.

Second, the combination of the die holder and gear wheel O, or equivalent means for rotating the same, with the lever L, substantially as and for the purposes set forth.

Third, the combination with the lever L of the die P and tubular shaft or spindle N and gear O, or other suitable means for imparting a rotary motion to the same, substantially as and for the purposes set forth.

Fourth, the combination of the die holder and its swinging or vibrating lever, with the mechanism for

revolving said die holder in the manner and for the purposes herein described.

Fifth, the combination of the grooved frame M, or equivalent means, for supporting and holding the screw under the action of the saw, with the lever L and saw J, substantially as and for the purposes set forth.

Sixth, the combination of the frame M, slotted or recessed at *p*, with the lever L and saw J, as and for the purposes set forth.

**67,656.**—W. D. JOHNSON, Raleigh, N. C.—*Seed Planter.*—August 13, 1867.—The conical hopper has adjustable apertures in its flanges for the transmission of grain and a rotating brush within to prevent choking. A pendent plow is attached to the frame in front, forming the seed bed, and harrows following cover the seed.

*Claim.*—The construction of the conical hopper E, with its stirrers K, and center wheel H, when arranged and operated with a plow D in front and harrow M in the rear, as herein described and for the purposes set forth.

**67,657.**—CARLOS JUDSON, Omro, Wis.—*Medical Compound.*—August 13, 1867.—For treatment of ague. 4 quarts of a decoction from 5 oz. "gall of the earth" or Indian ague weed; loaf sugar, 13 lbs.; oil of sassafras, 1½ oz.; oil of cloves, 2 drachms; whiskey, 1 gal.; tincture capsicum, 2 oz.

*Claim.*—The use of a medical compound combining the medicinal properties of the ingredients specified, mixed together in about the proportions and substantially as and for the purposes set forth.

**67,658.**—O. A. KING, Bedford, Ohio.—*Cheese Hoop.*—August 13, 1867.—The pivoted hinged lever attached to one end of the hoop, and connected with the other end by pivoted levers, draws the ends of the hoops together and on reversal expands the hoop for the extraction of the cheese.

*Claim.*—The lever C, links E, and lugs H, arranged in relation to the hoop substantially as and for the purpose set forth.

**67,659.**—EUGEN LANGEN and NICOL AUG. OTTO, Cologne, Prussia.—*Air Engine.*—August 13, 1867.—The hot gases, in expanding, instead of acting upon a separate displacing piston, act directly upon the working piston, which, while thus actuated, moves independently of the engine shaft, consequently performing no work. When it is caused to move in the contrary direction by the pressure of the atmosphere against the partial vacuum formed behind it, it is connected to the engine shaft and causes it to revolve. The connection with the engine shaft and the valve gear is so arranged that the number of strokes of the piston can be varied independently of the speed of the engine shaft.

*Claim.*—First, the peculiar mode of communicating the downward and backward motion of the piston, under atmospheric pressure only, to the engine shaft by means of a clutch apparatus, so arranged that the speed of the piston is rendered independent of the speed of the engine shaft.

Second, the cams or eccentrics S<sup>2</sup>, arranged for controlling the valves or slides for the admission of the combustible gas into and exit of the products of combustion from the cylinder, when actuated in such a manner from the engine shaft, through the mediation of the eccentric or cam S<sup>1</sup>, pawl X, ratchet wheel Q, and disengaging catch *w*, that such admission and exit of gases, and consequently to number of strokes of the piston, may be varied independently of the speed of the engine shaft, substantially as and for the purpose hereinbefore set forth.

Third, the combination of the several parts *k h P T U Q S<sup>1</sup> S<sup>2</sup> v' w* and *x*, operating in manner and for the purposes substantially as set forth.

**67,660.**—SAMEEL K. LIGHTER, THOMAS HARDING, and JOSEPH CURTIS, Hamilton, Ohio.—*Grain Drill Tube.*—August 13, 1867.—Improvement on the patent of Lighter and Harding, November 6, 1866. The spiral spring forms an elastic drill tube, and is secured by screwing inside the socket.

*Claim.*—First, the tube, Fig. 1, made with open coils in the manner and for the purposes described.

Second, the mode of connecting the tube to the



socket on the inside instead of the outside, in the manner substantially and for the purpose set forth.

**67,661.**—EDWARD A. LOCKE, Boston, Mass.—*Tag or Label.*—August 13, 1867.—Improvement on his patent June 26, 1866, (No. 55,877.) A metallic plate backs and engages the paper tag, and the extension band doubles back and engages in the eyelet holes.

*Claim.*—A tag or label composed of the metal embossing plate *a* and the inscription or marking plate *b*, when these are connected together and to a confining band *d* by an eyelet *c*, which at the same time secures the corners of the metal in bent over position, substantially as shown and described.

Also, the construction of the band *d* with an eyelet *e* integral therewith and formed therefrom, substantially as and for the purpose described.

Also, protecting the end of the band when the tag is applied, by carrying it between the pieces *a b*, substantially as shown and described.

Also, the lead or soft metal safety eyelet *i*, to be used substantially as and for the purpose set forth.

**67,662.**—ALEXANDER MACKEY, New York, N. Y., and EBERHART MÜLLER, Brooklyn, N. Y.—*Raising the Grade of Raw Sugars.*—August 13, 1867.—Water or a weak saccharine solution is passed through raw sugar in a centrifugal machine.

*Claim.*—Raising the grade of raw sugar by placing it in a dry or comparatively dry state in a centrifugal machine, and therein subjecting it to a washing operation, substantially as herein described.

**67,663.**—MORRIS MATTSON, New York, N. Y.—*Cupping Apparatus.*—August 13, 1867.—The air is forced by pressure from the elastic bulb when the screw valve closes the entrance, and the bulb regaining its shape a partial vacuum is formed for cupping.

*Claim.*—The combination with any suitable cup or vessel *A*, adapted for cupping and similar purposes, of an elastic exhausting bulb *B*, provided or fitted with a valvular apparatus, constructed substantially as described and on the principle described in letters patent granted to me April 4, 1854.

**67,664.**—EDWARD McALLISTER, Plainfield, Ill.—*Windmill Applied to Raising Water.*—August 13, 1867.—The rear edges of the pivoted wings are connected to the wheel at its rear. The pump operated by the mill is pivoted, so that when filled it will draw back the aforesaid wheel and straighten the wings with the direction of the wind to stop the mill.

*Claim.*—First, governing the action of a windmill by the weight of the water, pumped by an organized mechanism, substantially in the manner described.

Second, combining the trough *f*, connecting rod *e*, circular part *g*, rod *x*, pulley wheel *s*, and rod *q*, or their equivalents, substantially as and for the purpose shown.

**67,665.**—GEORGE W. MCGILL, Washington, D. C.—*Press for Attaching Paper Fasteners.*—August 13, 1867.—The plunger acts as a hammer and punch for punching holes to admit the fasteners and for separating and hammering down the shanks.

*Claim.*—A press with plunger, hammer, and punch, constructed, combined, and arranged substantially as described.

**67,666.**—J. W. MERRILL and E. H. LAWRENCE, Berlin, Mass.—*Pump.*—August 13, 1867.—The boxes are made of two plates held by adjustable bolts retaining an elastic material between. The lower box and valve have a lever operated by the inner edge of the upper box to open the lower valve, while at the same time it passes through and opens the valve in the upper box and lets back all the water from the pump.

*Claim.*—First, the peculiar construction of the lower valve with its fixed lever or arm *B*, when constructed and operating in the manner and for the purposes as above set forth and described.

Second, as arranged in relation to the foregoing the boxes of the two plates *A*, bolts *b b' b'*, and rubber *D*, when constructed and operating in the manner and for the purposes above set forth.

**67,667.**—LUCIUS MONTGOMERY, Newstead, N. Y.—*Lime Kiln.*—August 13, 1867.—The fire chambers are for wood and have vertical passages of communication with the cupola. The side swells in the cupola are to prevent jamming of the stone and unequal settling.

*Claim.*—First, a fire chamber *G* constructed within the inner half of the walls of a lime kiln having a solid bottom without grate bars, and having a front bridge or wall *H* with air flue below, for the purposes and substantially as described.

Second, the swell or rounding out of the inner wall as shown at *b'*, continued from the line *c d* up to the line *e f*, for the purpose and substantially as set forth.

**67,668.**—D. B. NEAL, Mount Gilead, Ohio.—*Apparatus for Defecating and Evaporating Sorghum Juice.*—August 13, 1867.—The juice from the press runs into a tank and overflows down a pipe, leaving the earthy parts at the tank bottom. From the cistern the juice is pumped into a similar defecating tank. The juice passes beneath the scum shelf, and the inclined side throws the scum on to the said shelf.

*Claim.*—First, constructing the sides or ends of evaporating pans to incline inwardly.

Second, the overflow defecators *f* with their openings *c e*, as shown and described for the purpose specified.

Third, operating a pump by an attachment to the sweep as shown and described, or its equivalent, for the purpose specified.

Fourth, the overflow gravel defecators, as shown and described.

Fifth, the recesses *j j* on the edge of the furnace, for the purpose specified.

**67,669.**—WM. ORR, Jr., and GEO. F. WRIGHT, Clinton, Mass.—*Machine for Making Paper Boxes.*—August 13, 1867.—The segmental box block is expanded by the frusto-pyramidal point of a spring pin, which is retracted by a treadle. The paper is forwarded in a continuous strip, which is pasted by passing over a roller rotating in a paste fountain. The paper is wound on the rotating box and spread thereon by brushes. The paper is cut by a shearing device operated by the attendant.

*Claim.*—First, the expansive holder *d* made of two or more adjustable sections, in the manner and for the purpose specified for round, square, or any other shaped box.

Second, the combination of treadle *a'*, levers *d' m' i'* and *p'*, rack *z*, and gear *y*, when used in connection with the expansive holder *d*, in the manner and for the purpose specified.

Third, the swinging frame *n*, when used in the manner and for the purpose specified.

Fourth, the revolving brush *q* or its equivalent, when used in the manner and for the purpose specified.

Fifth, the pressure rollers 19 and 21, when used in the manner and for the purpose specified.

Sixth, the segment brush 1, when used in the manner and for the purpose specified.

Seventh, the combination of the treadle *a'*, the triangular lever *d'*, the levers *m' p'* and *i'*, the rack *z*, and pinion *y*, and swinging frame *n*, the revolving brush *q*, expansive holder *d*, segment brush 1, the continuous strip of paper 10, guide rolls 12 and 17, paste roll 14, and rolls 19 and 21, shears 25 and 26, arranged and constructed as herein described, and operating substantially as and for the purpose set forth.

**67,670.**—DANIEL E. PARIS, Troy, N. Y.—*Cooking Stove.*—August 13, 1867.—Improvement on patents of S. B. Spaulding, June 22, 1858, and of James R. Hyde, June 10, 1862, and March 24, 1863. The enameled reservoir is attached to the back of the stove and has its covers hinged to the rear side. Its upper edges are flanged out to give rigidity. Between the reservoir and the stovepipe is a plate perforated at top, and having a damper stopped passage at its lower side.

*Claim.*—First, the hot air chamber between the back plate of the stove and the front side of the reservoir, in combination with the return flue chamber under the reservoir, and the damper or flue plate operating in said chamber.



Second, the open crescent-shaped rearward and upward projecting plate I enclosing and forming the return flue chamber under the reservoir, covered by and in combination with the reservoir, which rests upon its upper and outer top edges.

**67,671.**—RUSSELL PHILLIPS, Gardiner, Maine, assignor to himself and NATHAN WESTON.—*Car-penter's Plane*.—August 13, 1867.—The cutter is set to the desired depth and fastened by pressing the slide downward. As the cam does not slide but pushes against the cutter the latter is not displaced. The cutters vary in width at each end, changing the width by reversing the cutters. On the top of the guide is the graduated scale by which to set the cutters.

*Claim.*—First, the reversible cutters shown in Fig. 5, as and for the purposes specified.

Second, the arrangement of the two slides *p p*, thumb screw *q*, slot *r*, plates *s s*, graduated scale *x*, and plate *t*, as and for the purposes set forth.

**67,672.**—HENRY E. POND, Franklin, Mass., assignor to himself and AMOS P. WOODWARD, same place.—*Receptacle for Harness*.—August 13, 1867.—The receptacle has wooden sides and metallic corners, and is water-proofed with an outer coat to render it tight.

*Claim.*—As a new article of manufacture a receptacle for harness and other like articles, in which a wooden or other suitable skeleton frame A is combined with a water-proof covering, the body of which is saturated with a non-drying oil or compound, as herein set forth.

**67,673.**—DANIEL PREST, Marlboro', N. J.—*Horse Rake*.—August 13, 1867.—The rake is suspended upon sliding beams. It is brought into action by pressing it down by the feet of the driver, and is raised by springs on being relieved from pressure, permitting the rotation of the rake, or allowing it to be carried along the ground as desired.

*Claim.*—First, so suspending a revolving rake from the axle B by sliding beams H that it may be brought into action by pressure applied directly to the beams raised automatically, on being relieved from pressure, by springs which hold it suspended above the cut grass, substantially as set forth.

Second, the combination of the revolving rake head E, sliding beams H, springs K, and foot piece L, substantially as and for the purpose set forth.

**67,674.**—JOHN PRESTON, Bridgeport, Conn., assignor to himself and JOHN B. ATHERTON, same place.—*Support for Sewing Machine Operators*.—August 13, 1867.—The elastic spring pad is attached to the front of the machine to relieve the pressure on the operator's chest on reaching forward.

*Claim.*—The combination of the pad B and spring C, constructed so as to be attached to a table and to operate in the manner and for the purpose substantially as described.

**67,675.**—MICHAEL REILLY, Covington, Ky.—*Trace Supporting Hook*.—August 13, 1867.—A hook is pivoted to a plate, which is riveted to the leather. The hook is flattened transversely and extended, and the point turned into a recess in the plate to prevent accidental detachment of the link.

*Claim.*—The trace-supporting hook for harness, consisting of parts A *a* B and *b*, substantially as set forth.

**67,676.**—JOHN RICHARDS, Cincinnati, Ohio, assignor to J. A. FAY & Co., same place.—*Turning Lathe*.—August 13, 1867.—The tapering spindle is backed by a heel screw, and retained in place by a steel plate, whose rear, down-bent end enters a circumferential groove of the spindle, and whose fore end is engaged by a set screw, which traverses a slot and enters the head stock.

*Claim.*—The combination of the taper spindle *g'*, the adjusting screw *m*, and the spring catch *h*, or equivalent mechanism for retaining the spindle in the socket, all operating in the manner and for the purposes specified.

**67,677.**—J. RIDINGS and J. O. ROBERTS, New-castle, Del.—*Car Coupling*.—August 13, 1867.—The

bar is attached in one of the drawheads; the swell enters the bell mouth of the other drawhead and the inclined lugs force the coupling bar to rise over them and fall into position behind. The spring and the inclined shoulder of the swell retain the bar in position. To separate the cars the releaser raises the swell above the lugs.

*Claim.*—The combination and arrangement of the box A, spring E, coupling C, and reservoir M, when constructed substantially as described.

**67,678.**—LOUIS S. ROBBINS, New York, N. Y.—*Strengthening and Preserving Ropes, Cordage, and other Fabrics*.—The rope is placed in a chamber communicating with a coal-tar retort, and impregnated with vapors therefrom.

*Claim.*—The process herein described for preserving rope, cordage, and all textile fabrics from mold and decay by charging and saturating them with hot and oleaginous vapors and compounds, substantially as herein described.

**67,679.**—C. L. ROBERTSON, Providence, R. I., assignor to AMERICAN ENAMEL COMPANY, same place.—*Manufacture of Enameled Wood*.—August 13, 1867.—Explained by the claim and reference to his patent No. 63,428.

*Claim.*—As a new manufacture, articles of use or ornament made of wood and enameled by means of the composition substantially described in the letters patent granted to me April 2, 1867.

**67,680.**—GEORGE SLUSSER, Hillsboro', Ohio.—*Beehive*.—August 13, 1867.—The cross bars of the honey frames unite to form the rectangular honey chamber. The roof is inclined on both sides to form a feeding chamber.

*Claim.*—Giving such a shape to the removable honey frames *i j k*, that, when the same frames are placed side by side upon the inclined bottom *g* of the exterior casing, the caps *i i* and the central bars *k k* of said frames will form a horizontal top and bottom to the honey chamber within the same, while there will be formed between the said bars and the inclined bottom *g* of the exterior casing an ample air chamber, all substantially as herein set forth.

Also, placing the feeding box F in the air chamber above the said frames, and providing suitable openings for connecting said air chamber directly with the honey chamber and with the external atmosphere, all substantially as herein set forth.

**67,681.**—J. H. SNYDER, Rockford, Ill.—*Hame Clasp*.—August 13, 1867.—The straps are lapped together and held by a detent pin on the tongue, which passes through both slats. The tongue is held by a spring catch.

*Claim.*—The tongue F, pin H, and spring I, as arranged in combination with the lugs J and straps A B, in the manner substantially as described.

**67,682.**—JOSEPH W. STRANGE, Bangor, Me.—*Insertable Saw Tooth*.—August 13, 1867.—In the recesses cut in the saw plate are fins to receive the grooved, segmental, elliptical tooth bottoms.

*Claim.*—The curved or rounded bottom to the tooth, in combination with the recess in the saw plate, both of the form herein illustrated and described, when the same are employed as a method of wedging the tooth in its plate by the collision of the cutting edges of the tooth with the lumber to be sawed.

**67,683.**—WILLIAM A. SWEET, Syracuse, N. Y.—*Fagot for Rails of Railroads*.—August 13, 1867.—The flattened bars of varied thickness are placed in a converting furnace and the outer part converted into steel. They are then piled one upon another, the thinner at top, and rolled into form by successive passages between suitable rolls.

*Claim.*—First, an improved pile, substantially such as herein described.

Second, a railroad rail made of a pile, substantially such as that herein described.

**67,684.**—LEWIS SYLVESTER, Philadelphia, Pa.—*Brick Mold Piston*.—August 13, 1867.—The piston expands laterally and endwise, to take up the loss



resulting from wear and to give an even surface to the face that comes in contact with the brick.

*Claim.*—First, the expanding plate C, constructed and operating substantially as described.

Second, a solid piston having a recess *g* filled with composition metal cast in for making a close fitting piston, substantially in the manner described.

Third, the follower E, surrounded by soft metal *g*, and secured to the body A, in combination with or without the plates C, as described.

**67,685.**—ISAAC C. TATE, New London, Conn.—*Vise.*—August 13, 1867.—The frame is attached to the bench, and so arranged as to admit of projection of the jaws therefrom and oscillatory side adjustment in a horizontal plane.

*Claim.*—The combination of the slots I and G, and bolts E F, in a vise, substantially as and for the purpose described.

**67,686.**—J. P. TEALE and W. J. BRASSINGTON, Brooklyn, N. Y.—*Steering Apparatus.*—August 13, 1867.—The quadrant draws the spring-lock bolt and actuates the rudder, to which it is connected by rods and chains. It can be applied to common rudders by attaching a yoke to the top of the rudder.

*Claim.*—First, the construction, application, and arrangement of a movable bolt C, in connection with the rudder B, substantially as and for the purpose set forth.

Second, the sharp edge projection L, or ice breaker on rudder B, substantially as and for the purpose set forth;

Third, the yoke N, in connection with the crown piece O and rudder M, substantially as described and for the purpose set forth.

**67,687.**—GEORGE A. TOWNSEND, Hornellsville, N. Y.—*Automatic Damper.*—August 13, 1867.—The thermostatic damper is connected to levers operated by the expansion of bars of metal axially situated in the first section of stove pipe. The said damper has an index finger showing its position, and a set nut by which it can be fixed to any adjustment.

*Claim.*—The expansive strip or bars of metal F *f*, placed in or near the center of the first or second joint of the stove pipe when combined with the levers *a* and *b*, plate damper E' constructed and operating in the manner substantially as and for the purposes set forth.

Also, the thumb nut *i*, pointer *h*, in combination with the plate damper E, compound levers *a b* and expansive bars F *f*, as herein described, for the purposes specified.

**67,688.**—THOMAS J. TURNER, Richland county, Ill.—*Horse Rake.*—August 13, 1867.—The rotating head consists of a single rectangular frame, each one of the longitudinal bars of which has teeth. The frame is mounted on runners. The rake is freed for rotation by a hand lever.

*Claim.*—First, the revolving rake frame, constructed substantially as herein described, and hung in a frame mounted on runners, substantially as herein described.

Second, in combination with a revolving rake frame, as herein described, hung in a frame mounted on runners, as herein described, the lever L, with its notch or shoulder *n*, and a driver's seat on the rear end of the main frame, all constructed and arranged substantially as herein described.

**67,689.**—M. WARNE and W. H. PEARCE, Philadelphia, Pa.—*Hitching Device for Horses.*—August 13, 1867.—The rigid bar has straps at the opposite ends securing it to the bridle of the horse and to a hitching post, the bar maintaining the head of the horse in such a position that the harness or head gear cannot be rubbed against the post.

*Claim.*—First, a hitching device, consisting of a rod or bar A, to the ends of which are secured straps C D, or their equivalents, substantially as and for the purpose described.

Second, the hitching device made in two sections, one sliding into the other, or one hinged to the other, as set forth.

**67,690.**—IRA P. WARNER, Marengo, Ill.—*Carpet Stretcher.*—August 13, 1867.—The teeth having

engaged the carpet, the points of the lever take hold in the floor. By forcing the lever forward the carpet is stretched into position, and the brace, engaging in the notches, retains it till nailed.

*Claim.*—The combination of the lever A with the points B and hinged foot C, with hooks D, notches E and brace F, as and for the purpose specified.

**67,691.**—GEORGE M. WHITE, New Haven, Conn.—*Shirt Stud.*—August 13, 1867.—The stud has an elongated projection and a button pivoted on its back. After passing the button hole, the button is turned 90°, and is thereby engaged.

*Claim.*—The bar *f* in combination with the plates A and *d*, constructed and arranged to operate substantially in the manner herein set forth.

**67,692.**—CHARLES V. WOERD, Waltham, Mass.—*Stem-winding and Setting Watch.*—August 13, 1867.—The slide operates the movable lever that carries a shifting pinion, and a spring catch holds it in either of its normal positions, except when designedly released by the tongue to enable the setting of the hands or the winding of the watch by the action of the slide. The tongue indicates when the shifting pinion is in gear with the time train, preventing in that case the closing of the cover.

*Claim.*—The slide, arranged to operate substantially as set forth.

**67,693.**—HENRY WOOD, Montreal, Canada, assignor to GEORGE W. NORRIS.—*Apparatus for Treating Vegetable, Mineral, and Animal Matters with Steam.*—August 13, 1867.—The matter to be treated is placed in the retainer, which is run into the boiler, one end of the latter being removable. The retainer is a wire-work cylinder supported by a metallic frame, whose circumferential ribs carry rollers to support the retainer when rotated. Some of these rollers are fixed in castors, which are turned by a rod and worm gear to serve as supports when the retainer is run out onto the truck. A perforated pipe, axially attached to and removable with the retainer, communicates with pipes outside the boiler to allow introduction of chemicals. The grate is removable with its supporting truck.

*Claim.*—First, the fixed boiler A, with the removable head *a'* and with the perforated tube C passing through the head *a*, and when used for the purposes herein described.

Second, the retainer B, constructed substantially as described, with its friction rolls and internal gear wheel for revolving the same and with its central perforated tube C, as and for the purposes set forth.

Third, in combination with the retainer B the truck *o*, as and for the purposes described.

Fourth, the removable grate, when used substantially as and for the purposes herein described.

Fifth, the arrangement and combination of the whole apparatus, as substantially described, for the purposes hereinbefore stated; that is to say, for the treatment of ores and minerals by heat or by chemical action, or for the extraction of the metals by heat or chemical action, for the treatment of vegetable matter for the manufacture of paper or other purposes, or for bleaching purposes, the whole or any part of these processes to be performed either under pressure or in vacuo, as may be desired.

**67,694.**—JOSEPH S. WOOD, Philadelphia, Pa.—*Gas Regulator.*—August 13, 1867.—The gas-receiving chamber within the receiver is connected therewith by the port of a conical valve, whose stem is attached to the receiver top, so as to close with a certain elevation of the same.

*Claim.*—The combination of the tank A with its chambers E and E', formed between the two bottoms *a*<sup>1</sup> *a*<sup>2</sup>, and the pipes F and G, valve K, and receiver C, when constructed and arranged substantially as described.

**67,695.**—JAMES R. WOODWORTH, Nunda, N. Y.—*Tuyere.*—August 13, 1867.—The air chamber from which the tuyeres proceed has an open end to enable cleansing. A bar within the air chamber is hinged to a lever operated from the outside to enter the tuyere to clean the same from cinders and stop it when no blast is required. The smoke pipe is placed over the fire to preserve combustion.



**Claim.**—First, the lever E, in combination with the bottom F and hinge G, constructed and arranged substantially as described and for the purpose set forth.

Second, the movable smoke pipe, Fig. 6, in combination with the open towel herein described, substantially as and for the purpose herein specified.

**67,696.**—HENRY WURTZ, New York, N. Y.—*Manufacture of Cements, Mastics, and Japans from Grahamite.*—August 13, 1867.—Explained by the claims.

**Claim.**—First, the conversion of the mineral above specified, called by the patentee grahamite, into compounds suitable for cements, for mastics, for japanning and enameling metallic and other surfaces, and for electrical insulation, by fusion or combination with any material of a tarry, pitchy, asphaltic, resinous, or balsamic nature, substantially as set forth.

Second, the use as cements and mastics and for japanning, enameling, or coating surfaces, and for electric insulators, in any of the special cases above set forth as examples, or in any cases substantially similar, of the mineral grahamite, or any compound made by fusion or combination of grahamite with any material of a tarry, pitchy, asphaltic, resinous, or balsamic nature, all substantially as above set forth.

**67,697.**—HENRY WURTZ, New York, N. Y.—*Compositions from Grahamite for Varnishing, Coating and Protecting the Surfaces of Metals, Woods, and Fibrous Materials.*—August 13, 1867.—Explained by the claims.

**Claim.**—First, the conversion of the mineral from West Virginia, called by me grahamite, into solutions suitable for varnishes and iridescent and other lacquers, and for coating porous and other surfaces, by either of the methods above set forth, or by any others substantially the same, or furnishing products substantially similar.

Second, the use for the purpose of varnishing, lacquering, painting, and coating surfaces generally, and for stiffening tissues, of liquids or compositions made by dissolving or mixing grahamite in any suitable liquid solvent or vehicle, substantially as set forth.

Third, the use for the purposes of printing inks, of compositions made by dissolving or mixing grahamite in any suitable liquid solvent or vehicle, substantially as set forth.

**67,698.**—EDWARD YEOMAN, Waukegan, Ill.—*Bed Bottom.*—August 13, 1867.—The diagonal and vertical braces connect the two frames and slide on rods, being backed by springs. Spiral springs support the bed bottom.

**Claim.**—The combination of the braces D D D D, jointed to frame A and arranged to operate on rods E, supporting coil springs adjusted between lugs F and C, the whole being arranged to support and prevent a lateral motion of frame A, substantially as herein specified.

**67,699.**—HENRY YOUNT, Dayton, Ohio.—*Harness Motion for Looms.*—August 13, 1867.—The arms are connected to the levers, which have a series of holes by which, when attached, they regulate the movement of the harness frames. In turning the cams the levers are made to oscillate, thus communicating to the harness frames the requisite motion.

**Claim.**—The combination of the arms C and D, levers K, cams G, and frame A, constructed and arranged as and for the purpose set forth.

**67,700.**—JESSE ADAMS, Clarksville, Texas.—*Cotton Cultivator.*—August 13, 1867.—The adjustable hoes are rotated by bevel wheel connections with the axle, and are put out of gear by the hand lever that raises the rear end of the hinged frame.

**Claim.**—First, the series of adjustable hoes H H attached to and working on the shafts E, substantially as and for the purpose described.

Second, the hinged adjustable frame D, in combination with the revolving shaft E and lever L, substantially as and for the purpose specified.

**67,701.**—ALEX. H. ALLEN, Hartford, Conn.—*Safety Bridge and Gate for Railroad Cars.*—August 13, 1867.—The extension bridge is attached to the platform of the car by strap hinges. The straps are

permanently attached to the bridge and engage in hooks on the platform.

**Claim.**—First, the railroad car bridge, constructed as described, consisting of the hinged frames *b c d e*, riveted to the treads *a* at each end upon which the parts *d e* rest and slide, sliding and swinging gate *h k*, removably pivoted to the standards *n*, all arranged to operate as described to prevent the coupling and uncoupling of the ears, as herein shown and described.

Second, the gates pivoted to the standards *n*, by means of the arms *o* and pins *p*, in such a manner as to admit of being swung upon the platform of the cars, as herein described for the purpose specified.

Third, the combination of the removably-pivoted swinging gates with the standards *n*, sliding hinged frames *a b c d e*, and platforms A B of the railroad cars, as herein set forth for the purpose specified.

**67,702.**—JAMES O. ALTER, St. Louis, Mo.—*Low Water Indicator.*—August 13, 1867.—The two sections of the hollow stem are united by a screw nut, and have packing arranged therein to arrest the entrance of steam and moisture.

**Claim.**—The sharp angular packing edge *e*, in combination with a soft metal packing F, substantially in the manner and for the purpose herein described and set forth.

Also, the coupling E<sup>3</sup>, the spring G, and the stem A', combined and operated in the manner herein described and set forth.

**67,703.**—RICHARD S. ARNALL, Wright City, Mo.—*Car Coupling.*—August 13, 1867.—The treadle rod, connecting with the coupling bolt by the pivoted weighted lever and its attachment rod, raises the bolt, the weighted lever reinstating it on being released.

**Claim.**—The arrangement of the bar I, lever F, secured within the keeper H, bar E, connected to the lever F, as described, arm D, and pivoted draw head B, all constructed in the manner and for the purposes set forth.

**67,704.**—THOMAS BAKER, New York, N. Y.—*Stop Watch.*—August 13, 1867.—The arm is pivoted to the watch plate, and its spur engages the quarter-second wheel when the arm is advanced by the ratchet wheel, which is actuated by the pusher and its connections.

**Claim.**—A connection between the ratchet wheel and the quarter-second wheel of a watch, which is arranged so as to operate substantially as and for the purpose described.

**67,705.**—LEVI B. BALL, Dayton, Ohio, assignor to himself and CHRISTIAN OLDBROOK.—*Horse Rake.*—August 13, 1867.—The teeth are secured from lateral strain by engaging slots in the housings that are attached to the rocking bar.

**Claim.**—First, the housing D, provided with the slot *o*, in combination with the plate C provided with projection *d* and bolt F, substantially as and for the purposes set forth.

Second, providing the housing D with a dovetail base *i* to fit into a corresponding groove *i* in the rocking bar *g*, substantially as and for the purposes set forth.

**67,706.**—P. BAUMANN, Jr., New Athens, Ill., assignor to P. BAUMANN & Bros., same place.—*Liniment.*—August 13, 1867.—For treatment of sprains, spavin, &c.: Petroleum, oil of spike, spirits of camphor, spirits of turpentine, ammonia water, linseed oil, tar, and oil of lavender.

**Claim.**—The liniment herein described, composed of the several ingredients mixed together in about the proportions set forth.

**67,707.**—G. N. BEARD, St. Louis, Mo.—*Cotton Bale Tie.*—August 13, 1867.—One end of the band is passed through a slot in the tie-piece and turned under. The other end, after passing round the bale, engages in the other slot, and, bending under, is tightened on the expansion of the cotton when released from the press.

**Claim.**—The tie-piece A, having a countersunk cavity *a*<sup>2</sup> and two diverging mortises *a a'*, when applied to and combined with the baling band B B', substantially as described and set forth.



**67,708.**—W. H. BECHTEL, W. H. STRAHAN, and THOS. HARDY, Philadelphia, Pa.—*Reamer*.—August 13, 1867.—The guide strips and cutter are adjusted in the grooves of the conical shank by the nut, which also secures them in position.

*Claim.*—First, the three tapering guiding strips  $d'$ ,  $d''$  and  $d$ , and cutting strips  $e$ , in combination with the body A of the reamer, all constructed and arranged substantially as described.

Second, the above in combination with the nut B.

**67,709.**—HERMAN BELMER, Cincinnati, Ohio.—*Animal Trap*.—August 13, 1867.—The hanging door is raised by the rat on entering. A rat trying to raise the hanging door from the inside necessarily stands on the supplementary door and holds the other door down.

*Claim.*—First, the doors C and D, when made as described and when provided with a handle  $b$ , all made as set forth.

Second, the doors C and D in combination with the covered entrance, all made as set forth.

**67,710.**—WILLIAM W. BERNTHEISEL, West Hempfield township, Pa.—*Step Ladder*.—August 13, 1867.—The notched pivoted side pieces are braced together, inclosing the hinged supporting legs and folding together for removal.

*Claim.*—First, the arrangement of the side braces A A, with their pivot  $a$  and notch  $b$ , when united with a cross-brace B, in combination with the catch  $c$  and hinged supports of the step, all combined in the manner shown and described.

Second, in combination with the combined braces A B A and steps, the platform P with its clasp hook  $h$ , made in the manner and for the purpose shown and specified.

**67,711.**—C. C. BLODGETT, Watertown, N. Y.—*Horse Hay Fork*.—August 13, 1867.—The claws are hinged within the sheath when it is extended in position for entering the hay, and when the sheath descends the claws project therefrom. The sheath is secured in either position by a bolt that is projected into the slots by a spring-propelled lever. The bolt is withdrawn by a cord running over a pulley attached to the lever.

*Claim.*—First, a hay fork having a center bar combined with an inclosing sheath, substantially as herein described, in which the mechanism for holding the claws in position is carried by or contained within the bar or rod by which the said claws are operated or carried.

Second, the combination with the center bar and its inclosing sheath of the locking bolt and mechanism for operating the same, under such an arrangement that the said bolt and mechanism shall be contained within the center bar, as set forth.

Third, the combination with the bar or rod for operating or carrying the claws of the locking bolt and its actuating lever and spring, arranged for operation as herein described.

Fourth, the combination with the locking mechanism of the pulley and rope or cord for operating the said mechanism, arranged within the handle of the fork, as herein shown and for the purposes set forth.

Fifth, the method of connecting the slotted center bar with its inclosing sheath by means of a pin, or equivalent device, passing through both sheath and center bar, and forming the means whereby the motion of the center bar within the sheath is limited and stopped, substantially in the manner herein specified.

Sixth, the combination with the sheath and center bar of the claws elongated above their pivoted point, so that when the same are projected from the sheath their upper ends shall bear against the sides of the said sheath, substantially as and for the purposes set forth.

Seventh, the combination with the locking bolt and lever of a spring arranged within the center bar or handle in such manner that the recoil of the said spring shall force the bolt forward into place, as set forth.

**67,712.**—WILLIAM BRIGHTON, Arcannon, Ohio, assignor to himself and NOAH H. TILMAN, Darke county, Ohio.—*Meat Safe*.—August 13, 1867.—The rotating shaft has transverse arms with hooks attached for suspending the meat.

*Claim.*—The vertical revolving shaft with two or more series of horizontal arms D D, when said arms are provided with hooks  $e e$ , the whole being arranged within the case A in the manner specified.

**67,713.**—JACOB BRINKERHOFF, Auburn, N. Y.—*Corn-Sheller*.—August 13, 1867.—The ribbed metallic plates attached to the faces of the spring-adjusted blocks press the ears against the cylinder.

*Claim.*—The ribbed plates  $d$ , in combination with blocks  $g$ , when operating as and for the purpose herein set forth.

**67,714.**—HENRY BÜCHNER and FREDERICK EBERTZ, New York, N. Y.—*Fulminating Powder for Needle Guns*.—August 13, 1867.—Composed of chloride of potassium, sulphur, charcoal, saltpetre, chlorate potash, antimony, and mucilage.

*Claim.*—A fulminate for needle guns composed of the ingredients and about in the proportions as herein specified.

**67,715.**—Canceled.

**67,716.**—SILVANUS BURGESS, Providence, R. I.—*Rolling or Winding Paper in the Manufacture of Paper Cop Tubes*.—August 13, 1867; antedated August 6, 1867.—The paper is passed freely through the trough beneath the sponge, which is supplied with water from the reservoir above.

*Claim.*—Moistening the paper to be rolled up, wound substantially as and for the purpose set forth.

**67,717.**—N. C. BURNAP, Argosville, N. Y.—*Milk Cooler*.—August 13, 1867.—The tubular cooler is confined between the braces in the middle of the can and has a pipe in the cover for insertion or withdrawal of cold water.

*Claim.*—First, the cooler B, when in position within the can A by means of the horizontal radial arms  $b$ , substantially as described, for the purpose specified.

Second, the cover  $c$  supported upon the cooler B, having the tube  $e$  extending within such cooler, and with its flanges  $d$  fitting tightly within the can, substantially as described, for the purpose specified.

**67,718.**—CHARLES BURNHAM, Philadelphia, Pa.—*Paint Can*.—August 13, 1867.—The rim filled with flat wire presents a broad surface to the flange of the cover. The cover has a double flange fitting the rim of the can inside and out.

*Claim.*—Wiring or hemming the top edge of the can with a flat wire, so as to present a broad surface to the edge of the cover.

Also, in combination with the above-claimed improvement, a cover with the rim bent double, forming a groove, so as to shut against both the inside and outside of the can, at the top edge.

Also, in combination with the improvements above claimed, the clips to hold on the cover.

Also, a sunken cover, either corrugated or flat.

**67,719.**—JOHN T. BURR, Brooklyn, N. Y.—*Hydraulic Press*.—August 13, 1867.—The water forced into the cylinder by the usual pump acts against a small portion of the surface of the ram until it meets with considerable resistance. As the ram moves, water flows from the reservoir into the cylinder till the pressure of water lifts a weighted valve that opens the communication between the pump and the cylinder, enabling the water to act against the whole surface of the ram.

*Claim.*—The standing pipe packed in the central bore of the ram and connected with the pump, in combination with the pipe connecting the cylinder with any suitable reservoir or head of water, and the weighted valve arranged as shown, in connection with the pump and cylinder, the whole being substantially as and for the purpose set forth.

**67,720.**—J. S. CHARLES, Omaha, Nebraska.—*Fountain Pen*.—August 13, 1867.—The ink is drawn in by immersing the upper end and using the inner sliding portion as a plunger to draw it in. The feed of ink to the pen is regulated by the pressure of the set screw upon the small duct which forces the inner mouth of the duct from the case.

*Claim.*—The inner and outer tube B and C, ink



passage or tube *c*, in combination with each other, when all constructed so as to operate substantially as and for the purpose described.

**67,721.**—S. E. CHUBBUCK, Roxbury Mass., assignor to JOSEPH H. CHADWICK, same place.—*Apparatus for Molding Plates of Lead.*—August 13, 1867.—The mold tray has a steam chamber beneath to prevent chilling of the molten metal, and is supported on gndgeons connected to gearing to admit of inversion.

*Claim.*—The improved machine herein described for the purpose set forth.

**67,722.**—C. B. CLARK, Buffalo, N. Y., assignor to himself and EDWIN L. FERGUSON.—*Mop Head.*—August 13, 1867.—The handle and its cross-bar are moved forward to clamp the cloth by revolution of the bisected nut.

*Claim.*—First, forming the nut in segments *E E* to enable it to be inserted within the collar *D*, substantially in the manner and for the purpose set forth.

Second, the bent or inclined arms *f*, in which the ends *g g* of the jaw frame are secured, substantially as and for the purpose specified.

**67,723.**—THOMAS COLLIER, Springfield, Ohio.—*Farm Gate.*—August 13, 1867.—The hinge pintles are united in a long bar, and the gate is suspended on an anti-friction roller, which traverses a semi-circular bar inclined by a lever to cause the swing of the gate, either open or shut. A spring catch holds the bar while the gate is moving, and is automatically released on the gate reaching either fixed position.

*Claim.*—First, the curved and pivoted bar *D*, located below the top of the gate *A*, and operated by the ball crank *G* and levers *H I*, in combination with their connecting rods, substantially as set forth.

Second, the double-acting latch *K* to hold the bar *D*, inclined as desired, in combination with the guards *L M*, for the purpose set forth.

Third, the counterweight *E*, in combination with the hinge bolt *B* and pivoted bar *D*, for the purpose of reducing friction upon said hinge bolt, when the gate is being elevated as set forth.

**67,724.**—EMORY B. COOK, North Bellingham, Mass.—*Shingle Machine.*—August 13, 1867.—The blocks are clamped to slides on a rotating frame. The slides are moved forward to a circular saw by racks upon them, which engage screws having ratchet wheels engaged once in each rotation of the frame by a click. The machine may be thrown out of gear with its driving wheel by a lever.

*Claim.*—My improved shingle-making machine, as composed of the single click *P*, the rotary series of ratchets *N*, worm wheel *M*, racks *t t* and block carriers, arranged together, and with a circular saw and its operative mechanism, and provided with mechanism for supporting and operating them, substantially as specified.

**67,725.**—JOHN COOPER, Dublin, Ind.—*Washing Machine.*—August 13, 1867.—The rotating shaft is supported between a center screw and an arbor, into whose rectangular socket its end enters. The shaft has radial, staple-shaped bows to operate on the clothes.

*Claim.*—A washing machine having the shaft *D* provided with the bows *E*, when arranged to operate substantially as described and for the purposes set forth.

**67,726.**—J. S. COSTELLO, St. Louis, Mo.—*Stencil Brush.*—August 13, 1867.—The bristles are held in a metallic ring, and tightened with a central wedge block. The butt of the brush, after cementing, is inserted in a cylindrical cavity of the handle.

*Claim.*—The method of forming the handle of a stencil brush in one piece, with a recess, so constructed as to cover not only the end of the band and bristles, but also to completely encircle the same, substantially as shown and described.

**67,727.**—WM. COTTON, Longborough, England, assignor by mesne assignments to DUDLEY HOSIERY COMPANY.—*Knitting Machine.*—August 13, 1867.—Improvement on his patent, November 20, 1866. The yarn passes in contact with a sponge in an oil box,

supported on a guide rod, oscillated by a cam lever to take up the slack at each selvedge. The "jack sinkers" form loops around pairs of the needles. The dividers are subsequently moved forward by the "catch bar," while the jack sinkers are moved backward in a body, and force the yarn between each two needles of each pair, which action loops the yarn on the needles. The grooved needles take loops from some of the bearded needles, and transfer them to others for narrowing or widening the work.

*Claim.*—The arrangement as well as the combination of the oiling box *t a*, and the perforated guide lip *te*, with the horizontal rod *tb*, provided with mechanism for operating it, as set forth.

Also, the combination of the guide lip *te* and its supporting rod *tb*, provided with mechanism for operating it as described, with the main needles, their knocking-over comb and presser, and their sinkers, the said guide lip and rod, and their operative mechanism being for taking up the slack of the yarn, as and for the purpose hereinbefore set forth.

**67,728.**—J. W. CRARY, Pensacola, Fla.—*Brick Machine.*—August 13, 1867.—Improvement on his patent, August 17, 1858. This relates to a point of construction in the frame in relation to the mold wheel, as stated.

*Claim.*—Constructing the frame *A* with a semicircular top *a*, when said frame is used in connection with a molding wheel *B*, arranged concentric with the upper semicircular part of the frame, substantially as and for the purpose set forth.

**67,729.**—JOHN W. CRAW, Norwalk, Conn., and ABEL S. RANDOLPH, Plainfield, N. J., assignors to themselves and E. R. POPE, Plainfield, N. J.—*Mosquito and Fly Net.*—August 13, 1867.—The net is wound on a spring roller at bottom, and its upper end is attached to the lower sash bar.

*Claim.*—The bar *g*, in combination with the slides *i k* and spring roller *e*, when the ends of the bar *g* are formed to enter and slide in the slides *i k*, and said slides *i k* are partially removed at their lower ends to allow the bar *g* to be removed from the pins *2*, for the purposes and as set forth.

**67,730.**—LOUIS CURDTS, New York, N. Y.—*Mechanism for Applying Power to Machinery.*—August 13, 1867.—Clock gearing is applied to a sewing machine. The counterpoise is attached to the pallet shaft in lieu of a pendulum. The oscillation of the pallet is limited by the concave at the end of a slender arm extending from the counterpoise. The motion is stopped by bringing a spring in contact with the counterpoise. The brake bar is connected to a spring treadle.

*Claim.*—First, the arm or counterpoise *b* and arm *b'*, provided with the curved bar or fork *e'*, in combination with the pallets *a a'*, and the clock movement applied to a sewing machine, for the purpose of operating the same, substantially as shown and described.

Second, the stop mechanism, composed of the levers *d d'* and the link *e*, with the arm *g* on the end of the lever *d'*, all arranged in connection with the pallets *a a'*, to operate in the manner substantially as and for the purpose set forth.

Third, the brake *F*, composed of an elastic or spring bar, arranged in relation with the shaft *i* and connected with the treadle *j*, substantially as and for the purpose specified.

**67,731.**—ROLAN DAILY, Canal Township, Pa.—*Washing Machine.*—August 13, 1867.—Two semicircular series of rotating ribbed rollers combine to operate on the clothes.

*Claim.*—The box *A A*, in combination with the corrugated rollers *1 12*, the frame *B B*, in combination with the rollers *13 19*, and the wheels *D E*, when the same are constructed as described, in the aforesaid combination, for the purposes set forth.

**67,732.**—G. B. DAVIS, Chicago, Ill., assignor to M. A. THAYER and W. H. BOOMER, same place.—*Hot Air Furnace.*—August 13, 1867.—The circular grate bottom has vertical oscillation or horizontal rotation on the pivot loop. The vertical air pipes surrounding the fire space have foraminous segmental shields toward the furnace, and a lower opening communicating with the lunate chamber between the pipe



and shield. These pipes connect an air chamber in the base and an annular space around the upper part of the fire space.

*Claim.*—First, the round grate *o* in combination with the grate bar *P* and swivel loop *s*, all arranged and operating as and for the purpose set forth.

Second, the air tubes *L L*, in combination with the shields *l l*, arranged and constructed substantially as herein described and for the purpose specified.

Third, the combination of the air chamber *k* with the shielded air tubes *L L*, substantially as set forth.

**67,733.**—H. E. F. DE BRION, London, England.—*Compound for Coating Iron, Wood, and Other Materials.*—August 13, 1867; antedated February 8, 1866.—Explained by the claims.

*Claim.*—First, the preparing compositions by compounding vulcanized india-rubber rendered liquid by heat with vegetable pitch and resin, either together or separately, substantially as above described.

Second, the combining of bisulphide of carbon with compositions such as the above or similar preparations made with mineral pitch, so as to obtain a paint-like composition which can be applied without the aid of heat, substantially as herein described.

Third, the combining with such paint-like compositions the poisonous ingredients, hereinbefore specified, substantially as herein described.

**67,734.**—HENRY DISSTON, Philadelphia, Pa.—*Hardening and Straightening Steel Blades.*—August 13, 1867.—The plates after heating are clamped between a vertically moving plate and a sectional hinged plate carried on a track by anti-friction rollers; the plate is immersed, while clamped, in the hardening liquid.

*Claim.*—The mode, substantially as herein described, of simultaneously hardening and straightening saw or other blades of steel; that is to say, subjecting the blades while in a heated state to a gradual pressure between the plates, simultaneously with the dipping of the latter and the blades into a hardening composition or fluid.

**67,735.**—WILLIAM A. DONNELL, Greensburg, Ind.—*Corn Planter.*—August 13, 1867.—An upright lever is attached to the rear end of the tongue and braced thereto, so that by a forward movement of the lever the planter frame will be raised from the ground, the machine then being supported on the wheels and fore end of the tongue. The seed cavities are adjusted in size by a removable metallic plate, which is changed for another of different size through a box in the hopper.

*Claim.*—First, the arrangement in a corn planter of the rigid triangular frame, consisting of the tongue *G*, lever bar *H*, and brace bar *I*, in combination with the rack *M m*, or its equivalent, for the purpose of raising the shares *F F* from the ground, as stated, and retaining them in that position.

Second, the angle-ended plate *V v v* of varying sizes, to simultaneously increase or diminish the size of the seed cavities *t t*, as set forth.

Third, in combination with the plate *V v v* the box *Y y*, admitting of changing the said plates by merely removing the lid *y*, as stated.

Fourth, the combination of the cam *P*, lever *Q q*, *R r*, and levers 1 and 2, substantially as described, to admit of working the seed-dropping apparatus, either by hand or by the rotation of the cam *P* and its accessories.

**67,736.**—GEORGE D. DUDLEY, Lowell, Mass., assignor to WOODS, SHERWOOD & CO., same place.—*Corn Popper.*—August 13, 1867.—The corn is placed in a gauze case, reciprocated in a gauze tray by a crank upon the shaft.

*Claim.*—First, the combination of the popper *A* with the parallel rods *b b* and handle *B*, constructed and operating substantially as described.

Second, the crank *C*, connecting rods *c d*, in combination with the popper *A* and parallel rods *b b*, the whole constructed and operating substantially as described and specified.

**67,737.**—A. T. DUNBAR and A. McNAUGHT, Alba, Pa.—*Device to Attach to Firkins, Barrels, &c.*—August 13, 1867.—The hole to admit the tryer is

closed by the gutta-percha covered, convex portion of a plate attached to the barrel head by screws.

*Claim.*—As a new article of manufacture, the plate herein described, when applied to packages containing butter, kegs or barrels containing liquids of any or all kinds, and barrels containing flour, salt, and sugar.

**67,738.**—LEWIS R. DYE, Cranberry, N. J., assignor to himself and PHILIP S. SCOVEL, Bordentown, N. J.—*Stump Extractor.*—August 13, 1867.—The chain is passed from the stump on one side of the machine to the anchor on the other, and the ends brought back to a frusto-conical drum upon which they are simultaneously wound by rotation of the rope drum, whose shaft has a small spur wheel engaging a larger wheel on the drum shaft.

*Claim.*—First, the tapering drum *K*, in combination with the operating devices herein described, or any equivalent to the same, and with the chain *T*, when the latter is attached to the said drum, in the manner and for the purposes specified.

Second, the shaft *I* with its drum *K* and cog wheel *H*, in combination with the shaft *C*, its pinion *j*, ratchet wheels *E* and *F*, and the loose drum *D*, the whole being constructed, arranged, and operating substantially in the manner described, for the purpose herein set forth.

Third, the combination of the shaft *C*, its loose drum *D*, pawl *f*, and the ratchet wheel *E*, substantially as and for the purpose described.

Fourth, the above, in combination with the lever *g* and pin *h* of the ratchet wheel *E*.

Fifth, the pulley *q*, arranged in respect to the drum *D*, substantially as and for the purpose specified.

**67,739.**—J. A. ELSTON, Elston Station, Mo.—*Aerial Machine.*—August 13, 1867.—The wings are pivoted to a vertical post, to the top of which the balloon is connected. The wings are operated by levers. Ropes from the stem and stern posts connect with the balloon to balance the car boat.

*Claim.*—First, the combination of one or more pairs of wings *C*, connecting rods *E*, sliding block *F*, connecting rod *G*, and lever *H* with each other and with the post *B* and frame of the car, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the eye block *J* and ropes *K* and *L* with the post *B* and front and stern posts of the car, for the purpose of changing the level of said car, substantially as herein shown and described.

**67,740.**—MITCHEL ESSELEN, Roxbury, Mass., assignor to J. D. GUYER & CO., same place.—*Machine for Raising and Drying the Nap of Hats.*—August 13, 1867.—A series of blocks are arranged around the rim of the wheel, so as to give the hats a rotary motion with the block spindles and a revolving motion around a common center to raise the nap.

*Claim.*—The machine constructed substantially in the manner and for the purpose set forth, that is, as composed not merely of the series of screw spindles *D D*, and hat blocks or holders *E E*, the wheel *A*, and mechanism for revolving the wheel and series of spindles, and hat blocks on holders about a common axis, but also of mechanism for revolving each spindle with its hat block or holder, in the mean time, on the axis thereof.

**67,741.**—JOHN EVANS, Jr., Milbridge, Me.—*Means for Casting Anchor.*—August 13, 1867.—The ends of the anchor are supported by the cat head and a pivoted shoe respectively, and it is freed by the disengagement of the cords by the simultaneous withdrawal of the sliding rods, by which one end of each of them is engaged.

*Claim.*—The hinged shoe and the eyebolts in position, with the ringed cat and shank stopper, and the sliding rods or bolts *g g*, the pin and hole *l* in lever *i*, substantially as and for the purposes set forth.

**67,742.**—FRANCIS FARQUHAR and ROBERT E. DOAN, Wilmington, Ohio.—*Apparatus for Heating and Evaporating.*—August 13, 1867.—The flues extend over the fire box, which is surmounted by a defecating pan and partially surrounded by the evaporating spaces wherein the liquid is boiled.



*Claim.*—First, an evaporating or heating apparatus having one or more flues mounted directly over the fire box, substantially as described.

Second, the projecting pan A', to be heated by one or more flues, substantially in the manner and for the purpose specified.

Third, the combination with the flues B E E' of the damper I, substantially as and for the purpose set forth.

Fourth, the defeecating pan C, in combination with the boiling or evaporating space b<sup>2</sup>, and fire box D, substantially as and for the purpose set forth.

**67,743.**—EDWIN FAULL, Maldon, Anstralia.—*Lubricator.*—August 13, 1867.—The glass oil reservoir has a glass conduit pipe with a supply cock whereby to regulate the supply of oil, it having a nut at one extremity for permanent adjustment. The effects of the unequal expansion of the glass and metal are counteracted by the elastic coupling.

*Claim.*—The combination of the transparent reservoir and conduit B, metal tube D, elastic washer e, supply cock c, and the second cock d, substantially as described, for the purpose specified.

**67,744.**—B. G. FITZHUGH, Lykensville, Md.—*Tethering Stake.*—August 13, 1867.—The upper section of the stake, divided into equal parts, is secured in a tubular rubber socket at its connection below. The elastic socket allows the parts to expand, and then, contracting on the approach of the animal, prevents the sagging of the cord.

*Claim.*—A tethering stake or post, made in two parts and united by a piece of rubber, as and for the purpose substantially as herein described and represented.

**67,745.**—WILLIAM H. FORKER, Meadville, Pa.—*Brush.*—August 13, 1867.—The bristles are confined in a cap in which a hollow bar is swaged, and are secured by a screw from the socket of the handle drawing an inverted cone into the elastic cylinder in the center thereof. A rubber band next the cap increases the rigidity of the bristles.

*Claim.*—The head B, with the hollow bead C, in combination with the screw G H, the cylinder M M, and the cup s s, and the rubber band 2 3, when the same are constructed as described in the aforesaid combination, for the purposes set forth.

**67,746.**—WALTER S. FURLow, Genesee, Ill.—*Snap Hook.*—August 13, 1867.—Pressure on the beveled ends at the rear portion opens the hook and an elastic band round the neck re-engages it.

*Claim.*—An improved snap hook, formed by the combination of the parts A and B, constructed substantially as herein shown and described, and rubber or equivalent band D with each other, as and for the purpose set forth.

**67,747.**—CHAUNCEY GOODRICH, Plainville, Conn.—*Butt Hinge.*—August 13, 1867.—The central projections of the socket are formed with a bevel, the middle part of the sockets working loosely in the other leaf except at the point where the swinging is to be stopped, at which point the bevels bind each other.

*Claim.*—A stopbutt, in which is made or cut the central parts or portions of the eye or socket, beveled or inclined so as to cause the stopping at the desired angle by the binding of the inclined planes or beveled surfaces, while the portions or parts at the ends parallel to the ends of the leaves are cut or made to keep the two leaves in their proper relative positions, when the whole is constructed and fitted to operate substantially as herein described and set forth.

**67,748.**—STEPHEN GREENE, Philadelphia, Pa., and WALTER H. FORBUSH, Buffalo, N. Y., assignors to HENRY G. LEISENRING, Philadelphia, Pa.—*Railroad Ticket Printing Press.*—August 13, 1867.—The card tube is below the grooved guides and has a rising bottom operated by springs and weights, so that as the top card of the pile is pushed forward the next card takes its place. The front end of the card tube is hinged to its sides to allow throwing back to open the tube. The pusher arm extends beyond its pushing shoulder and is hinged with a downward spring

pressure to a vibrating lever. The extension, by resting on the moving card, causes the pushing shoulder to move parallel to the grooved guides. The lever carrying the pusher arm is adjustable on its shaft to suit the length of the cards and consequent movement required.

*Claim.*—First, the spring pusher arm H<sup>2</sup> with its extension beyond the pushing shoulder hinged to the vibrating lever II, and operating in the manner and for the purpose set forth.

Second, making the lever II' adjustable on its shaft so that the point reached by the pusher arm in its forward movement may be changed as required for the purpose set forth.

Third, the spring pressure double roller N, combined with the guides, for the purpose described.

**67,749.**—ANSON D. GRIFFIN, Titusville, Pa.—*Packing for Deep Wells.*—August 13, 1867.—A leather bag is attached to the easing and projected by the springs that are attached to the loose ring above; the springs take the place of seed filling.

*Claim.*—The bag B, the springs D, the thimble E, and the collar F, and the loose ring C, constructed and arranged in combination with the easing A A', substantially as shown and described for the purposes set forth.

**67,750.**—SETH GRIFFITH, Aurora, Ill.—*Composition for Granulating Sorghum Sirup.*—August 13, 1867.—To 50 gallons sorghum sirup add beef tallow 1 pound, saleratus 1 ounce, alum 1 ounce.

*Claim.*—The application and use of the herein-described ingredients, combined with sorghum sirup, substantially in the manner and for the purpose as herein set forth.

**67,751.**—W. D. GRIMSHAW, Newark, N. J.—*Machine for Manufacturing Chain Cable.*—August 13, 1867.—The quadrangularly arranged sliding dies operate in pairs at intervals, first to hold a ready-made link while threading, and afterward constitute a mandrel within the partially formed link and bend it for closing. The obliquely operating hammers close the blank. The spring and drop lever automatically engage and disengage the grip.

*Claim.*—First, the combination of the dies E E and E' E', arranged for action together or relatively to each other as described, the one set of dies E' E' being provided with mandrel formations c e, and the other pair of dies E E with grooves m m', or other equivalent guides to the blank, substantially as specified.

Second, the combination, with the sliding dies E E and E' E', of the obliquely operating hammers m m' for operation together, in the manufacture of chain or chain cable, essentially as herein set forth.

Third, in combination with the sliding dies E E and E' E', the eccentrics F F and F' F' linked together in pairs, and either pair operated at intervals as described, also the one set of eccentrics being controlled in their action by a spring h and drop lever G, or the equivalents of such devices, substantially as specified.

**67,752.**—HORACE W. HADLEY, Winchendon, Mass., assignor to JOHN G. FOLSOM, same place.—*Sewing Machine.*—August 13, 1867.—The elliptical movement of the lower end of the eccentric rod is communicated to the feeding dog by the vibrating lever. The lever is connected by ball joints at its ends to the rod communicating with the dog, and by a universal joint at its center to the stationary stud which forms its fulcrum.

*Claim.*—First, the adjustable fulcrum block N in combination with the lever F and the feeding dog D, substantially as and for the purpose set forth.

Second, the feeding dog in combination with, and operated by, the lever E and slotted rod F, eccentric G, substantially as and for the purpose set forth.

Third, the pivoted oscillating groove cam S, with the oscillating looper-shaft Q and the looper arranged and operating substantially as described.

**67,753.**—JAMES R. HAGGERTY, Hillsdale, Mich.—*Hemmer for Sewing Machines.*—August 13, 1867.—The hinged edge of the turner is held to its work by a curved spring in the rear.

*Claim.*—A hemmer provided with hinged edge



turners, substantially as and for the purpose described.

**67,754.**—JOEL HAINES, West Middleburg, Ohio.—*Fruit Can.*—August 13, 1867.—The rubber cover screws into the mouth of the can, which has a flange around its mouth to prevent the contact of the fruit with the rubber. An inverted frustum on the top of the can serves as a funnel and as a base for the bar that engages under its rim.

*Claim.*—First, corrugating the metal around the mouth of the can, to render the packing tight with small pressure.

Second, a flaring flange, or inverted frustum, around the mouth of the can, to serve as a tunnel in facilitating the filling of the can, and to hold the cover in place.

Third, the wire around the top of the frustum, to hold the bar that fastens down the cover.

Fourth, in combination with the wire around the top, the bar H hinged to the wire at one end, so that it can be slid back and raised to remove the cover, substantially as described.

**67,755.**—B. M. HALL, South Bend, Ind.—*Grain-ing Machine.*—August 13, 1867.—The design on the endless apron is, after properly coating with paint, transferred to the bucket or other article by rotating them in contact. The ends are extensible to tighten the apron.

*Claim.*—First, the rollers C D E, and apron G, as arranged, in combination with the frame A provided with the adjustable ends I', in the manner and for the purpose substantially as described.

Second, the arrangement of the gearing B B', and rollers L, in combination with the rollers C D E, and apron G, as and for the purpose set forth.

**67,756.**—WILLIAM E. HARDING, Bowling Green, Mo.—*Plow.*—August 13, 1867.—The wheel rotating at the heel of the plow is used to lighten the draft by instituting a rolling in the place of a sliding motion.

*Claim.*—The wheel c, when combined with a plow A B in the manner and for the purpose set forth.

**67,757.**—S. L. HART, Milwaukee, Wis.—*Wood Turning Lathe.*—August 13, 1867.—The cutter is held and fed to its work by a double slide, and its lateral movement is regulated by the adjustable stop attached to the cross-head of the double slide.

*Claim.*—The double slide, consisting of the dovetail, longitudinal arm  $h^1$ , having beveled cross-head  $h^2$ , carrying the adjustable stop O, and dovetail sliding bar  $h^3$ , and operating levers K and M, when constructed substantially as represented and described.

**67,758.**—PIERRE J. HARDY, New York, N. Y.—*Chair and Lounge.*—August 13, 1867.—The double bottom unfolding on its hinges, the arms serve as legs resting on the floor. The back also unfolds till it assumes the position of a lounge.

*Claim.*—A folding chair in which the back can be turned down in combination with a double seat frame hinged at the front end, supported by the arms when turned over to form a lounge, as set forth.

Also, the padding of the back formed double, at K, so as to be turned over for the pillow, in combination with the folding chair, back and double seat hinged, and fitted as set forth.

**67,759.**—PIERRE J. HARDY, New York, N. Y.—*Folding Chair.*—August 13, 1867.—When the pivoted legs are stretched out the hinged back maintains a vertical position by the contact of the shoulders, which are engaged by the pressure of the elastic back-band.

*Claim.*—The hinges formed as caps for the tops of the legs, as specified, and introduced between the folding cross-legs and the side-rails of the arms, as set forth.

**67,760.**—JOHN HASELTINE, Warren, N. H.—*Composition for Stuffing Leather Belts.*—August 13, 1867.—For application to the inner side of belts. Soft soap, 1 gallon; grease, 2 lbs.; pine tar, 1 lb.; salt  $\frac{1}{2}$  pint.

*Claim.*—The combination of the ingredients above mentioned, in about the proportions specified, using

as a base for the composition the first named ingredient.

**67,761.**—PETER A. HANSE, Catonsville, Md.—*Trace Coupler.*—August 13, 1867.—The flat-headed bolt has a bent shoulder to preserve the continuity of the direction of the strap. The flattened edge entering the slot the head turns and engages in its position.

*Claim.*—First, the construction of the flat button head C, upon the bent end b of a tongue portion D, substantially as described and for the purpose explained.

Second, the combination of a staple B, having an off-set or groove g formed in it with the button headed connecting device C D, substantially as and for the purpose described.

**67,762.**—JOHN HEATON, Langley Mill, England.—*Converting Cast Iron into Bar Iron and Steel.*—August 13, 1867.—The pig iron in a molten state is placed in a rotating cylinder having radial extensions for the reception of perforated tubes containing nitrate or chlorate of potash or soda to convert the cast iron into steel or wrought iron. The iron is conveyed from the eupola to the converting cylinder in a receiver mounted upon wheels and having a perforated false bottom, beneath which is contained one of the chlorates or nitrates mentioned.

*Claim.*—First, the use of nitrate of soda or nitrate of potash or chlorate of soda or chlorate of potash, to act from the underside upwards upon cast or pig iron, when such iron is in a molten state, for the purpose of converting the same into steel and into wrought iron, substantially as described for the purpose specified.

Second, the removable chamber containing nitrate of soda or potash or chlorate of soda or potash inserted in recesses of a revolving cylinder containing molten cast or pig iron for the purpose of forming steel or wrought or soft iron, substantially as described for the purpose specified.

Third, the revolving cylinder a, with a solid or hollow axis a', and with or without the semicircular end plates made in one piece or two parts, 1 and 2, and adapted to receive the removable perforated chamber d, substantially as described for the purpose specified.

Fourth, the converter A, constructed as described, having a lower chamber A<sup>2</sup>, containing nitrate of soda and nitrate of potash or chlorate of soda and chlorate of potash covered by a perforated plate upon which molten cast or pig iron is placed, substantially as described for the purpose specified.

Fifth, a receiver for conveying molten cast or pig iron from the melting furnace to the molds containing nitrate of soda and nitrate of potash or chlorate of soda and chlorate of potash, acting from the under side of such molten metal upwards, substantially as described for the purpose specified.

**67,763.**—CHARLES F. HOEING, Hudson City, N. J., assignor to himself and DANIEL GILCHER, same place.—*Medicine for the Cure of Fever.*—August 13, 1867.—For treatment of fever and ague. Amorphous quinine, 4; extract of yellow poplar bark, 1; alcohol, 24 parts.

*Claim.*—A composition formed of the ingredients and in the proportions herein described for the purposes set forth.

**67,764.**—WOODBURY STORER HOW, Cincinnati, Ohio.—*Toilet Stand.*—August 13, 1867.—The stem has pins for hanging clothing and is supported by expanding legs. A seat is attached, and the whole apparatus folds together for moving.

*Claim.*—First, the arrangement of central stem A, pivoted legs B B' B'', stops E, pegs H, and hooks D and I, the whole forming a movable stand for the toilet purposes stated in the specification.

Second, in combination with the elements of the preceding clause, the brace or step F, arranged and attached as set forth.

**67,765.**—JOHN J. HUTSON, South Solon, Ohio.—*Hog Ring.*—August 13, 1867.—The pivoted extensions of the ring penetrate the hog's snout, and turning back elineh round the ring.

*Claim.*—The hog ring d D C B C' D' d', composed



of a single piece of wire, formed and adapted for application and operation as described and shown.

**67,766.**—LEONARD L. JACKSON, Paterson, N. J., assignor to himself and JOHN FRAME, Middletown, N. Y.—*Bedstead Fastening*.—August 13, 1867.—The forked ends of the side rails are placed in dovetail slots, and extended by screws till the joints are tightened.

*Claim.*—Fastening a bedstead rail in place by placing its forked ends in slots and forcing them apart by set screws or wedges, as and for the purpose specified.

**67,767.**—JAMES H. JONES, Williamsport, Pa.—*Car Coupling*.—August 13, 1867.—The hooks being thrown back when the cars come together, the prominent curved springs collide and throw the hooks over onto the bolts which they engage.

*Claim.*—The drawheads A A, having their upper sides open when used in combination with the hooks B B, bolts D D, and the curved metallic plates C C, arranged and operating as and for the purposes set forth.

**67,768.**—PHINEAS JONES, Newark, N. J.—*Driving Rein*.—August 13, 1867.—The bar engages in one of the slots of the rein, and is intended to assist the handhold.

*Claim.*—As a new article of manufacture, a rein holder, consisting of the bar A, having its ends b flattened, its center a rounded, and the whole covered with leather and inserted in the button hole c of the rein B, substantially as herein shown and described.

**67,769.**—CHARLES KALBFUSS, New Richmond, Ohio.—*Warming Apparatus for Fire-places*.—August 13, 1867.—The chamber and drum over the fire basket retain, till used, the heated air that is carried by pipes over the building. The air is let into the chamber by an adjustable pipe, and is retained at the bottom of the chamber next to the furnace by a diaphragm running longitudinally in the chamber. The draft is regulated by dampers in the flues.

*Claim.*—First, the combination, substantially as described, of the heating chamber B, internal flue C, induction pipe E, drum L, branch pipes M M', and exit pipe O, the whole being arranged and operating as herein described and set forth.

Second, in combination with the elements B C E L M M' and O of the preceding clause, the diaphragm F and the damper K k, for the purpose specified.

**67,770.**—W. G. KENDRICK, Wilmington, Del.—*Railroad Car Heater*.—August 13, 1867.—The heating apparatus is suspended under the center of a car floor; it has pipes extending through the car to the open air above, and registers to receive the air entering under the car doors.

*Claim.*—First, the registers I, placed just within the car doors and suitably connected with the heating apparatus, for the purpose of conducting all the cold air passing in under the doors to the heating apparatus, that it may re-enter the car warmed, instead of spreading over its bottom in a cold stratum, substantially as described.

Second, the casings K, perforated at their bottom and opening into the outer air at their tops, as and for the purposes set forth.

Third, the heating apparatus, constructed with an intermediate casing B, for the purpose of helping to keep the heat in and the cold out, as explained.

**67,771.**—HENRY KIMMEL, Waynesburg, Ohio.—*Hay Rake and Loader*.—August 13, 1867.—Each wheel acts as an independent driver, and rotates outside the frame, so that a longer drum and rake can be attached. The rake teeth form also the covering shield for the apron. The pivoted tongue is adjustably attached through a slot at the point of engagement with a pendant bar regulating the height of the loader.

*Claim.*—First, the peculiarly constructed hay rake teeth N, in combination with the rake head M, lever P, and head L of the covering shield, constructed and arranged in the manner and for the purposes herein set forth.

Second, the peculiar arrangement of the tongue E

with the frame A and foot piece F with pin g therein, the several parts being used as and for the purposes before specified.

Third, the spring Q and Q with the bends t, in combination with the upright z, in the manner and for the purposes specified.

**67,772.**—JAMES D. KINCAID, Bowling Green, Mo.—*Plow*.—August 13, 1867.—The loosely-attached plow beams are adjusted laterally by the lever beside the seat which connects through the rods, rock shafts, and chains with the beams. The plows are elevated by the treadle lever that is retained by a spring catch when depressed in front.

*Claim.*—First, the rock shafts or rollers C C and their cranks or elbows c c', the lever C', and the chains c<sup>3</sup>, when combined with the post D of the plow, as and for the purposes herein set forth and described.

Second, the combination and arrangement of the levers E, the chains or rods E', the fulcrum arms e e, and the spring catch, substantially as described and set forth.

Third, the attachment of the plow beams to the frame A by means of the device d d<sup>1</sup> d<sup>2</sup>, substantially as described and set forth.

**67,773.**—J. W. KOKEMULLER, Bluffton, S. C.—*Cotton Gin*.—August 13, 1867.—The cotton is fed to the bite between the belts of the ordinary feed bands. The rod in the angle of the bite serves as a stripper in detaching the seed from the cotton, which is drawn through between the belts, while the seed drops through the grating.

*Claim.*—First, the driving rollers C C and working or ginning rollers E E, in combination with the intermediate rollers D D, or equivalent wheels, to serve as bearings for the rollers E, and to transmit power to the same from the driving rollers C, substantially as and for the purpose specified.

Second, in combination with the rollers above specified the belts G G, applied substantially as and for the purpose set forth.

**67,774.**—J. M. KRIDER, Madison Court House, Va.—*Tailor's Measuring Instrument*.—August 13, 1867.—The elastic metallic strip encircles the body under the arm-pits. Upon the bar is a cross-piece ranging vertically in front of the left arm. A stud slips upon the metallic strip, and a second metallic strip is adjustable upon the stud. The instrument being detached is laid out on the cloth and the distances obtained are measured from the four points of departure.

*Claim.*—The measuring apparatus above described consisting of the shoulder spring M, the breast spring L, the bar N, the plate K, having the grooves and thumb screw described, and the studs 1 2 3 and 4, all constructed, combined, and arranged substantially in the manner and for the purpose specified.

**67,775.**—J. D. LEACH, Penobscot, Mo.—*Ship's Block and Warping Chock*.—August 13, 1867.—The warp is detained when desired by the oscillating pawl; being pressed between the concave face of the latter and the sheave which is pivoted on the standards of the base piece.

*Claim.*—The concave faced pawl C, arranged to vibrate upon pivot a provided with spring d, or its equivalent, and the stop pin b, and lever e, and combined to operate in conjunction with sheave B, or its equivalent, in the manner substantially as and for the purposes specified.

**67,776.**—MATTHEW LE PAGE, Woodhaven, N. Y., assignor to himself and WILLIAM AMBERMAN, Jamaica, N. Y.—*Spring Bed Bottom*.—August 13, 1867.—The transverse and longitudinal slats are supported on combined elliptic springs.

*Claim.*—The arrangement of the elliptic springs C D, in tiers, in combination with the longitudinal and transverse braces E F, constructed and operating substantially as shown and described.

**67,777.**—L. LITTLEJOHN, New York, N. Y.—*Cotton-bale Tie*.—August 13, 1867.—The stirrup yoke has an eyelet at one end through which a headed bolt is passed, and a hook at the other end engages the pin after it passes through the loop of the hoop.



*Claim.*—The double headed pin F, working longitudinally through the eye D in the arm B of the yoke, supported in position to receive the bands by means of the inner lower edge of the eye and its outer upper edge, and adapted to fit into the loop E of the yoke, as herein set forth for the purpose specified.

**67,778.**—JOHN B. LUCE, Earlville, Ill.—*Horse Rake.*—August 13, 1867.—The rake is adjusted and restrained from turning by the pendant holder attached to the hand lever. A stretcher between the draw bars retains them in position.

*Claim.*—First, the pivoted pendant or standard K, applied to a single handle revolving rake and operated by means of lever M, and connecting rod O, substantially as and for the purpose herein set forth.

Second, the lever M, connection O, pivoted pendant or standard K, pawl J, and steps or projections Y and Z, in combination with a single handle revolving rake, substantially as and for the purpose herein set forth.

**67,779.**—J. A. MARVIN, Red Wing, Minn.—*Stove-pipe Drum.*—August 13, 1867.—A long extent of flues are confined in the drum to retard the escape of the heated air.

*Claim.*—The arrangement of the flues B B', connected at top and bottom, and separate within the case A, so that the products of combustion divide at the neck C, and pass to D, through separate channels, as herein set forth for the purpose specified.

**67,780.**—S. E. MASON and E. DOWNE, Bangor, Me.—*Folding Chair.*—August 13, 1867.—The pillars of the back are hinged to the seat and are secured by self-acting catches when expanded. The chair legs are pivoted at their centers, one pair is hinged to the rear of the seat and the other pair has catches which engage the front part of the seat when extended.

*Claim.*—The folding chair as constructed with seat A and pivoted legs C C and C' C', and the hinged back B B, all arranged to operate relatively to each other, substantially in manner as described and shown.

**67,781.**—JOHN MATHEWS, Jr., New York, N. Y.—*Bottle Stopper.*—August 13, 1867.—Improvement on patent of J. N. McIntyre, assignee of A. Albertson, October 11, 1864. The valvular rubber cap is attached to the inner end of the rigid stem to act as a buffer.

*Claim.*—First, a bottle stopper operating as described, composed of a stem C and valvular cap D, at its inner end, said stem and cap being made of different materials and the latter being shaped and arranged to act in the threefold capacity of valve proper, buffer, and to prevent percolation through or round the stem, substantially as specified.

Second, a bottle stopper having a stem of a rigid character with flexible caps D and E, to or over its opposite ends, essentially as herein set forth.

**67,782.**—E. P. MCCARTHY, San Francisco, Cal.—*Wagon Spring.*—August 13, 1867.—The metallic bell caps are attached to the bolt that secures the elastic ball between them for strengthening the spring.

*Claim.*—The metal cups B B, for receiving the ball and supporting the spring in combination with the elastic ball C, suspended or held in place by the rod D, between the upper and lower portion of the spring, substantially as described.

**67,783.**—JOHN McDONALD, Saratoga Springs, N. Y.—*Brick Dryer.*—August 13, 1867.—The warm air is conveyed from the hollow walls and passages of the kiln to the chamber in which the bricks are dried.

*Claim.*—The kiln A, having hollow walls h, in combination with the dryer chamber B, substantially as described for the purpose specified.

**67,784.**—DANIEL MCHUGH, Mainville, Ohio.—*Frame for Mosquito Bars.*—August 13, 1867.—The folding frame is retained in its elevated position by hinged braces adjusted in notches to the height desired.

*Claim.*—The combination of the two hinged half frames d e e' with the central frame piece a, to which the fan mechanism is connected, and the serrated post b and pawls f f, when the parts are adjustably connected and arranged to operate in the manner described.

**67,785.**—W. H. McMILLAN and STEPHEN DEVOE, New York, N. Y.—*Center Bit.*—August 13, 1867.—The bit is formed with various shaped cutters according to the form of the block to be cut.

*Claim.*—A center bit or tool, constructed and provided with a cutting edge, substantially as and for the purpose described.

**67,786.**—A. MENDENHALL, Cerro Gordo, Ind.—*Calculating Machine.*—August 13, 1867.—Intended as a ready means of adding, subtracting, multiplying, and dividing. The operations cannot be briefly explained.

*Claim.*—The combination of the box A, graduated cylinder b, graduated wheel c, fixed graduated plate d, slotted and graduated plate forming the end of box a, small grooved wheel g, pin h in the cylinder b, and the arm f, all constructed and arranged to operate as herein set forth for the purpose specified.

**67,787.**—ALFRED S. MILES, Brooklyn, N. Y.—*Combination of Brush and Rubber.*—August 13, 1867.—The bristles are enclosed in a block of india-rubber that is expanded for their admittance, and being relieved retains them.

*Claim.*—The brush B, in combination with the block A, of india-rubber, substantially as herein set forth for the purpose specified.

**67,788.**—FRANCIS MILLS, Mount Vernon, Ind.—*Machine for Bending Tires.*—August 13, 1867.—The tire passes between two longitudinally-adjustable rollers, and then beneath the power roller and over another roller. The main roller is vertically adjustable by a lever to which its boxes are connected, and which is held by a pawl.

*Claim.*—The arrangement of the adjustable rollers C C, hung in either one of the fixed bearings B B', the roller E, hung in the horizontally-sliding head D, the crank roller G, hung in the vertically-sliding bearings F, in combination with the lever H suspended on the stirrup d, and provided with the rack g, to be held in place by the dog e, the whole mounted on the bench A, and operating as herein described.

**67,789.**—M. F. MITCHEL and W. B. CHAPMAN, Waukau, Wis.—*Snap Hook.*—August 13, 1867.—The pivoted arm connecting the shank to the hook is kept locked by a spring attached to the opposite side.

*Claim.*—A spring or snap hook, constructed substantially as described.

**67,790.**—GEORGE O. MOMENY, Locust Point, Ohio.—*Bob Sleigh.*—August 13, 1867.—The knees and braces are loosely attached to the beams and the raves to the nose of the runner, to facilitate its accommodation to inequalities in the ground and to enable its being detached for storage.

*Claim.*—First, attaching the knees B to the beams by means of the slotted braces G, when constructed and arranged as described, to allow lateral and vertical movement to the runners, enabling them to adapt themselves to the irregularities of the ground, as herein set forth.

Second, the combination of the hook H and eye I with the forward ends of the raves D and runners A, substantially as herein shown and described.

**67,791.**—GEORGE R. MOORE, Lyons, Iowa.—*Illuminating Door for Heating Stoves.*—August 13, 1867.—The inner doors have perforated plates through which the fire shines when the close outer door is opened.

*Claim.*—First, the doors for stoves and heaters, made of three plates, the outer close and the others perforated, substantially as and for the purposes specified.

Second, the stove door, composed of perforated plate C, cast-iron plate B with apertures as shown, and close-hinged plate A, constructed and arranged as described.



**67,792.**—CHAS. C. WOLFRUM MÜLLER, New Orleans, La.—*Breech-loading Ordnance*.—August 13, 1867.—When inserted the rectangularly-recessed neck of the breech piece is straddled by the key block, which prevents retraction or rotation. The forward portion is detachable to allow substitution when heated by quick firing. An axial spring piston explodes the cap.

*Claim.*—First, the breech plug A, provided with shoulders *o o*, leaving an angular neck straddled by the key C and receiving the spring plunger *b*, and having its inner end grooved, or a shoulder to lock with cartridge plug D, when constructed and operating substantially as described.

Second, in combination with the above, the key C straddling the neck B of the plug A between its shoulders *o*, to the base thereof, and operating substantially as described for the purpose specified.

**67,793.**—MILTON V. NOBLES, Elmira, N. Y., and JUDSON HOLCOMB, Towanda, Pa., assignors to themselves and JOHN C. NOBLES, Rushford, N. Y.—*Broom Head*.—August 13, 1867.—Explained by the claim and illustration.

*Claim.*—A broom head, composed of the straps or plates and the divided bands, the whole held together by means of the clamping buttons and screws, and adjustable, as well as removable and replaceable, substantially as herein described and represented.

**67,794.**—CHRISTIAN OYSTER, Chambersburg, Pa.—*Securing Wheels of Vehicles on their Axles*.—August 13, 1867.—Each of the two sections of the washer has an elongated opening similarly shaped to the cross-pin of the spindle, but standing rectangularly in respect to each other. In applying, one is run over the pin and turned 90°; the other occupies the pin, and the hinge prevents rotation of the inner one. A nut keeps the outer one to place.

*Claim.*—The immovable key and the hinged washer, constructed substantially as described for the purpose specified.

**67,795.**—GEORGE H. PALMER, New Bedford, Mass.—*Mortise Knob Latch*.—August 13, 1867.—By the retention of the latch with a spiral spring it will spring back and engage when it strikes, though the handle be held rigid.

*Claim.*—The cylindrical lock case A, constructed as described, consisting of the longitudinal sections *a*, secured together by means of the rings *b*, as herein set forth, for the purpose specified.

Second, the latch B, having upon its upper and lower sides the guiding plates *d d*, sliding in grooves *e e* of the case A, arranged in relation with the dove-tailed, pivoted link C, slotted, pivoted link D, springs *j j* upon opposite sides of the link C, and the slotted hub E, as herein set forth, for the purpose specified.

Third, the latch B, when provided with the guiding plates *d* sliding in the grooves *e e* of the lock case A, as and for the purpose specified.

**67,796.**—JOHN C. PEDRICK, Washington, D. C.—*Treating Petroleum*.—August 13, 1867.—The combined apparatus, composed of a steam generator, an oil reservoir, a hydro-carbureter and a condensing chamber, is intended for vaporizing or generating gas from the heavier coal oils or hydrocarbons. Moist atmospheric air is combined with such vapors or gas for illuminating and other purposes. The atmospheric air is carried forward into and distributed through the oil or hydrocarbon by a current of steam.

*Claim.*—Treating petroleum or other hydrocarbons by passing through the oil or hydrocarbon a current or currents of steam and air, substantially as and for the purposes set forth.

**67,797.**—J. F. C. PICKHARDT, New York, N. Y.—*Wardrobe Bedstead*.—August 13, 1867.—The hinged sections of the bedstead fold together and then resemble the front of a secretary.

*Claim.*—First, the securing or hinging of the bedstead B to a support C, which is hinged to the base of the case A, and all arranged in such a manner that the bedstead may be turned or folded up within the case when not required for use, and let down and drawn out from the same when designed to be used, substantially as and for the purpose set forth.

Second, the bearings *m*, at the inner sides of the

doors *a a*, in combination with the hinged bedstead support C, and bedstead B, all arranged in connection with the case A, substantially as and for the purpose specified.

Third, the jointed supplemental foot board *g*, and hinged head board *e'*, applied to the bedstead, substantially as and for the purpose set forth.

Fourth, the combination of the case A, with doors *a a*, bedstead B, support C, bearings *m*, on the doors *a a*, supplemental foot board *g*, the hinged head board *e'*, and the pivoted leg D, all arranged substantially as and for the purpose specified.

**67,798.**—CHARLES H. POST, Guilford, Conn.—*Ox Yoke*.—August 13, 1867.—The hinged metallic plate engaging in a notch in the bow retains the same and obviates the use of a key.

*Claim.*—The metallic plate C, constructed and operating substantially as shown and described, in combination with the yoke A, and the bow B, as and for the purposes set forth.

**67,799.**—JOHN W. POST, Castile, N. Y.—*Skate*.—August 13, 1867.—The under side of the skate has an eccentric spring latch. The clamps which hold the fore part of the boot have screw threads which fit into lateral sockets beneath the foot plate.

*Claim.*—First, the foot plate *a*, constructed as arranged and shown, with the inclined screw sockets D, cast on its under side, into which sockets the screw clamps E fit, substantially as described.

Second, the eccentric spring latch F, constructed and operated substantially as described, pivoted to the under side of the plate A, for the purpose set forth.

Third, the combination with the eccentric spring latch F, the blunt pin H, cast in one piece with the plate A, substantially as and for the purposes described.

**67,800.**—VIRGIL PRICE, New York, N. Y.—*Hanging Swords*.—August 13, 1867.—The plate of the scabbard is secured to chains in connection with the sword straps, making a flexible attachment.

*Claim.*—The chain B, in combination with the plate *b*, for the purpose of suspending swords from belts, substantially as herein shown and described.

**67,801.**—STEPHEN RAWDON and L. T. ETHERIDGE, Darlington, Wis.—*Washing Machine*.—August 13, 1867.—The suds box has a segmental bottom with inner transverse ribs. It is supported on gudgeons and is oscillated by a lever.

*Claim.*—The machine or tub consisting of the semicircular ends or heads A, connected together by means of the ties or rubber B and bottom C, and provided with the removable cover E, and handle or lever G, in combination with upright frame H, all arranged and operating in the manner and for the purpose described.

**67,802.**—EDWARD ROBINSON, Greenbush, Wis.—*Wagon*.—August 13, 1867.—The tongue-hounds have a segmental rack attached to their rear ends, which engages a sliding catch to prevent the lateral oscillation of the tongue on a rough road. When turning the wagon, the neck yoke acts on a pivoted bar beneath the tongue to draw back the catch and disengage the rack.

*Claim.*—First, the combination of the segmental rack F, the catch *c*, pivoted with a spiral spring to operate it, the lever *a*, the tongue E, and the axle B, arranged and operating substantially as and for the purpose herein described.

Second, the detached frame G, combined with the loop *d* on the lever *a*, and the tongue E, arranged and operating substantially as and for the purpose specified.

**67,803.**—GEORGE ROBINSON, Detroit, Mich.—*Feed Regulator for Sewing Machines*.—August 13, 1867.—The length of the stitch is regulated in accordance with the length of the radius of the cam presented to the feed bar.

*Claim.*—The combination of the screw D, on shaft B, with the worm wheel E, and cam F, on the stud G, all being applied to the cloth plate A of a sewing machine, to operate in the manner substantially as and for the purpose set forth.



**67,804.**—JACKSON ROBISON, Curwinstown, Pa., assignor to REUBEN HOOVER, Boonsboro', Iowa.—*Oar Collar.*—August 13, 1867.—The oar has both a rocking and a lateral motion. The center of the semicircular collar agreeing with the center of the pin, the oar is supported and moves on the metallic surfaces of the two parts of the collar.

*Claim.*—The oar collar formed of the parts A and B, when constructed and applied substantially as herein shown and described for the purposes set forth.

**67,805.**—L. RODENHAUSEN, Philadelphia, Pa.—*Street Sprinkling Cart.*—August 13, 1867.—In filling the cart the water passes through a strainer within the same. Devices explained by the claims and illustration.

*Claim.*—First, a sprinkling cart constructed with the following characteristics, viz: a closed body A, an inclined bottom b, the hose rack E, and strainer D, arranged and operating substantially as described.

Second, in combination with the body A, the valve F, placed at the junction of the eduction pipe and sprinkler, substantially as specified.

**67,806.**—ANDROSS ROGERS, Freeport, Ill.—*Tire Shrinker.*—August 13, 1867.—Each of the two sections has a clamping serrated cam for the tire and a shear blade, and the moving one is reciprocated by a lever and connecting rod. At the outer side of the sliding portion is a punch, which acts in combination with a die fixed to the bed.

*Claim.*—First, the shear blades D D, when constructed and operated in the manner herein set forth.

Second, the combination of the lever C, the side B', the punch F, and the shear blades D D, the whole constructed, arranged, and operating as herein specified.

**67,807.**—ISAAC RORABACK, South Bend, Ind.—*Breast Strap Slide.*—August 13, 1867.—The plate has sliding attachment to the breast strap, with a spring catch to prevent the disengagement of the neck-yoke ring.

*Claim.*—The curved slide A, when provided with its arm B, jaws c c, and tongue d, with its spring, as and for the purpose specified.

**67,808.**—ISAAC RORABACK, South Bend, Ind.—*Buckle.*—August 13, 1867.—The under buckle plate has two "keepers," and is riveted to the strap, which has a slot to receive a lug on the upper plate. This latter plate has a pin to engage the adjustable holes, which pin slides beneath one of the keepers when the buckle is secured.

*Claim.*—The plate C with its upper and lower lugs w and z, and formed thicker at its rear end when used in combination with the casting B, having side bars, keepers D D, and central plate a, above which is a narrow groove d for the sliding plate C to operate, when constructed and used in the manner and for the purpose herein specified.

**67,809.**—HENRY SCHULTZ, Chicago, Ill.—*Sofa and Bed.*—August 13, 1867.—The seat of the sofa has an independent rotating action, one side being used as a sofa and the other as a bed. The folding back turns down and is secured to the sofa bottom.

*Claim.*—The revolving frame upholstered as a sofa cushion on one side and as a bed on the other side, with a folding back as described, the whole constructed and operating substantially in the manner herein described and specified.

**67,810.**—FREDERICK SHALLER, Hudson, N. Y.—*Turning Lathe.*—August 13, 1867.—The face plate has two pivoted bars which are adjusted in distance to clamp the blank that is centered by sliding reversible male and female centering rods.

*Claim.*—First, the chuck E with its clamping bars F F, pivoted and arranged for operation substantially as described.

Second, the combination with the puppet H of the gauge bar J, with its tool guide and gauge g and reversible male and female centering rod I, essentially as specified.

**67,811.**—JAMES SHEPARD and JOSEPH SIGOURNEY, Bristol, Conn.—*Latch.*—August 13, 1867.—The bolt and arm are hung to the rear of a plate that has

an aperture in it through which to insert the fingers to actuate the bolt.

*Claim.*—First, the bolt a with its beveled or slanted end b, and its long or weighted end a b pivoted or hung by its arm c, and operating substantially as set forth.

Second, in combination with the foregoing, or its equivalent, the pull plate h, the whole constructed and operated substantially as set forth.

**67,812.**—THOMAS SIMONS, New York, N. Y.—*Steam Pump.*—August 13, 1867.—The vessel has a perforated, horizontal, diametric diaphragm and an induction valve above and eduction valve below the same. The air is forced from the vessel by steam, which, by condensation, forms a vacuum, to fill the vessel with water. The steam is then admitted to force the water out, and the same repeated.

*Claim.*—First, the arrangement of cylinder A, perforated plate a, and box C, substantially as herein set forth.

Second, the arrangement of the cylinder A, steam inlet G, chamber H, valve I, and lever J, in the manner and for the purposes set forth.

**67,813.**—JOHN T. S. SMITH, New York, N. Y.—*Machine for Cutting and Punching Paper.*—August 13, 1867.—The paper is fed to the cutter by a spring foot and ratchet plate actuated by a spiral rib on the cutter shaft. The feed device is retracted by a spring and its movement regulated by a set screw.

*Claim.*—The combination with the continuously revolving cutter C, constructed to cut only at intervals in each rotation, and stationary cutter d with the feeding foot F and holder E, having an intermittently reciprocating action as described, by means of the partial spiral f, incline or stud g, and spring k, with its rod l, or equivalent of these devices, and regulating screw m to the slide i, of the holder and feeding foot, substantially as and for the purpose or purposes herein set forth.

**67,814.**—H. P. STAFFORD, Decatur, Ill., assignor to himself and M. C. WYKEL, same place.—*Gang Plow.*—August 13, 1867.—The tongue is connected to the main plow beam by a swivel guide before and through a lever fulcrumed on the axle, and by which the beam may be raised. The double tree is connected to the plow beam. A secondary plow beam is hinged to the side of the main one.

*Claim.*—First, the attaching of the plow beams to the carriage through the medium of the pendent swivel guide M secured to the draft pole D, and the pins a in the sides of the beam H, between which pins the guide is fitted, substantially as and for the purpose specified.

Second, the attaching of the plow beam H' to the beam H by means of the pivot b and the guide N, substantially as and for the purpose set forth.

Third, in combination with the mode of attaching the plow beams to the carriage, as shown, the application of the draft power direct to the plow beams, substantially as set forth as and for the purpose specified.

Fourth, the lever P, having its fulcrum pin f fitted in a swivel Q on the axle A and its rear, and connected by a link e with a grooved roller d, which works under an oblong loop or staple O on beam H, substantially as and for the purpose specified.

**67,815.**—ROBERT B. STANTON, Oxford, Ohio.—*Reversible Feed for Sewing Machines.*—August 13, 1867.—On the usual feed cylinder of a Wheeler and Wilson machine two additional cams are placed, performing functions similar to those of the usual compound cam, but in a contrary direction. An additional pendant is added to the sliding frame of the feed bar, which is adjustable by a screw to regulate the length of stitch. The feed bar has vertical movement by the cams through the medium of a block on a spring bar, which is adjustable to communicate the said motion from either cam, to cause a right or left feed. A beveled hook holds the thread when the cloth is fed in, reverse to the usual direction, allowing the thread to draw up without friction.

*Claim.*—First, the two cams G H, in combination with the cam D and the adjustable elastic bar J, all arranged to operate in connection with the feed plate



E and toothed bar F, substantially as and for the purpose specified.

Second, the screw *c*, connected with pendant *a'*, in combination with the revolving socket I, as and for the purpose set forth.

Third, the beveled hook-shaped plate L, when used in connection with a reversible feed mechanism, as and for the purpose set forth.

**67,816.**—JOHN STOCK, El Paso, Ill.—*Bureau and Bedstead*.—August 13, 1867.—Explained by the claim and illustration.

*Claim.*—The combined bureau and bedstead constructed as described, consisting of the bottom B, having raised pieces D hinged to the boards E F, having end pieces G and side pieces I, adapted to form a bedstead when opened and a bureau when folded up, as herein shown and described.

**67,817.**—ENOCH E. STUBBS, West Elkton, Ohio.—*Cultivator*.—August 13, 1867.—The roller and harrow are adjustable vertically by levers. The harrow teeth pass through a board through which they may be retracted to clean them from grass or weeds.

*Claim.*—The combination of the knives *d*, roller D, and harrow E, with the levers *g h* and *s*, perforated harrow box and main frame, the parts being arranged, connected, and operating together in the manner and for the purpose specified.

**67,818.**—GEORGE C. TAFT, Worcester, Mass.—*Wrench*.—August 13, 1867.—The head of the rosette is attached to the stationary jaw by a swivel, the screw turning in the sliding jaw by which it is actuated.

*Claim.*—A wrench provided with a swivel attached to the end of the rosette and fitted in the stationary jaw, substantially as set forth.

**67,819.**—WARREN A. THOMPSON, West Winsted, Conn.—*Ox Yoke*.—August 13, 1867.—The gear wheel in the center block, actuating the racks, causes the recession or approach of the neck blocks that slide in the slotted yoke, regulating its working length.

*Claim.*—The top caps *d'* of the neck block D, sliding longitudinally in the channels formed in the upper sides of the slots of the body A, in combination with the devices as shown, when constructed and operating as herein set forth and for the purposes specified.

**67,820.**—HORACE TUPPER, Bay City, Mich.—*Window Sash*.—August 13, 1867.—The top and horizontal bars are slotted, and the vertical bars grooved to allow the introduction of all glass from the top. Side strips of rubber prevent shaking.

*Claim.*—The head piece A, when provided with a slot for the admission of the glass, in combination with the continuous grooves in the vertical bars and the slots in the horizontal bars, as and for the purpose described.

**67,821.**—R. P. UNDERWOOD, Brooklyn, N. Y.—*Lubricator for Spindles*.—August 13, 1867.—The conical oil cup is attached concentrically on the spindle, and has a core fixed to the frame, with upper perforations through which the oil passes to the spindle and lower holes for its return to the cup. The upper perforations have extensions to draw in the oil.

*Claim.*—The oil cup B attached to spindle A, and stationary center plug or core E, having inlet passages G, provided with extensions I and outlet passages L for the oil, substantially as and for the purpose described.

**67,822.**—HENRY HOLTEN VERE, New York, N. Y., assignor to JOHN E. FISILEY, same place.—*Spring Mattress*.—August 13, 1867.—The springs at both ends are connected by strips of steel similar to watch springs. There is also an outer frame of similar strips.

*Claim.*—A spring mattress, composed of the spiral springs A, flat steel spring top and bottom B, and flat steel spring frame C, and suitable covering, all made and operating substantially as herein shown and described.

**67,823.**—ARTHUR WADSWORTH, Newark, N. J.—*Stem Winding Watch*.—August 13, 1867.—By the arrangement of the bar carrying the gears, the main spring can be wound, whether the case is open or

closed, by turning the pendant. To set the hands, the bar is first pressed inward to establish the necessary connection between them and the pendant, and disconnect the pendant and main spring, and then, by turning, regulate the hands.

*Claim.*—First, the bar J, carrying wheels I I<sup>2</sup>, interposed between the pendant and the mainspring, axis and hand arbor, respectively, of a watch movement, substantially as and for the purpose described.

Second, the combination of a turning pendant and pusher, when connected together in a watch, substantially as described, for the purpose specified.

Third, the packing ring *s*, or its equivalent, between the pendant and pusher of a watch case, substantially as and for the purpose described.

**67,824.**—JAMES C. WALKER, Waco Village, Texas.—*Extracting Essences*.—August 13, 1867.—The boiler is traversed by a single flue, and discharges by a curved pipe into the condenser within a tank. The portion of the pipe within the condenser is perforated by small holes.

*Claim.*—First, the apparatus above described, consisting of the furnace A, boiler B, having tube *a*, tube *b*, with perforated extremity, chamber *c* with perforated bottom, pipe D and surrounding tank E, all combined and arranged substantially as and for the purpose specified.

Second, the detachable receiver G, fastened by the air-tight joint *g* to the tube D, and acting in combination with the parts above described, substantially as and for the purpose specified.

**67,825.**—DANIEL WARNER, Port Clinton, Ohio.—*Drill*.—August 13, 1867.—Each side is beveled opposite each other, and after forming the cutting point it is also beveled on each side in a transverse manner.

*Claim.*—The rod A, with its grooved sides B, cutting edges *c'* guides *c*, beveled points *x*<sup>2</sup> *x*<sup>1</sup> and *z z*, in the manner and for the purposes set forth.

**67,826.**—DANIEL WARNER, W. F. PEIFFER, and A. F. LEFER, Port Clinton, Ohio.—*Drilling Machine*.—August 13, 1867.—The drill is actuated by turning the crank balance wheels that connect by gearing with the shaft to which the drill is attached. The eccentric upon the axle of the balance wheel causes the lever to oscillate and to feed the drill to its work.

*Claim.*—First, the arrangement of shaft *z z'*, bevel wheels D D and bevel wheel E, with shaft F and box M, as and for the purpose specified.

Second, in combination with the subject-matter of the first claim, the hand wheel K, pinion L, rack J and box M, all constructed and arranged substantially as and for the purpose specified.

Third, the lever R, constructed and used as specified, with the wheel N, and shaft I, as and for the purpose set forth.

**67,827.**—JOSEPH P. WHITE, Savannah, Ga.—*Switch*.—August 13, 1867.—A lever is secured to both ends of each rail of the switch which fits against the outside of one of the four outer rails, so that the switch is moved by inserting a wedge from the locomotive between one of these levers and a rail. The switch may be locked by a bolt.

*Claim.*—First, the switch *c* when provided with the levers D, and when combined with the hinged levers F and H, bar G, springs *c c*, or their equivalents, bolt E and inclined planes O, all made and operating substantially as herein shown and described.

Second, the above in combination with the lever K K, wedges M M, and lever N, that are arranged on the engine or car, substantially as and for the purpose herein shown and described.

**67,828.**—WILLIAM N. WHITELEY, Springfield, Ohio.—*Harvester*.—August 13, 1867.—The flexible tongue is stiffened at any desired point by the adjustable strap connecting with the driver's foot-board. The bearing wheels and the main bevel driving gear may be thrown out of gear independently of each other by clutches. The arm which has one of its ends centered upon the axis of the crank shaft which operates the cutters, and the other end centered upon the axis of the drag-bar, is rendered rigid by the brace that is secured to the middle of the arm and to the shoe at the inner end of the cutting apparatus, thereby regulating its height from the ground. When



used as a mower, the brace being removed from the arm, it becomes flexible, allowing the apparatus to rise and fall on the drag-bar as a center, the shoe resting upon the ground.

*Claim.*—First, the construction and arrangement of the coupling arm M, the brace O, or its equivalent, in connection with the inner shoe of a harvester, cutting apparatus, and the cutter's crank shaft, so that the cutting apparatus may rise and fall upon a center at the inner or outer end of said coupling arm or be made rigid as desired, and substantially as described.

Second, the coupling plates *s s* connected together by the cross-bars T U, in combination with the main frame A and standard *a*, substantially as and for the purpose set forth.

Third, the driver's seat W located upon the cross-bar T so that the weight of the driver will rest directly upon the bearing wheels and not upon the main frame, substantially as and for the purpose set forth.

Fourth, forming the joint of the pitman and cutter bar by the use of a loose conical plug which is kept in place by guide way *j*, or its equivalent for that purpose, and may be removed without the aid of tools when the head of the cutter bar is withdrawn from said guide, substantially as and for the purpose set forth.

Fifth, the plug *e*, set screw *g*, and jam nut *h*, in combination with the guide way *f*, pitman *j*, and the sickle eye, substantially as and for the purpose set forth.

Sixth, the rake arm F', in combination with the independent guide *w*, so that said rake way be raised and held up during its entire revolution by the raising of said guide and without changing the path of the reel arms, substantially as and for the purpose set forth.

Seventh, the pendent arm D' with its friction roller, in combination with the rake arm F and the independent guide *w*, substantially as and for the purpose set forth.

**67,829.**—WM. N. WHITLEY, Jr., JEROME FASSLER, and OLIVER S. KELLY, Springfield, Ohio.—*Harvester Cutter.*—August 13, 1867.—The nail rod has a narrow flange connection reducing the surface connection and the liability to choke by gumming up.

*Claim.*—The nail rod E provided with the right angled flange F, substantially as and for the purpose set forth.

**67,830.**—F. E. WILKE, Brooklyn, N. Y.—*Photographic Camera Stand.*—August 13, 1867.—The head of the vertical screw supports the sliding part of the frame and the screw engages a nut in the lower stationary part thereof. By turning the screw the camera is adjusted for height and a horizontal swivel screw with its attachments regulates the inclination.

*Claim.*—First, the device for raising and lowering the sliding frame of a camera stand, which consists of a vertical screw G which is held between the cross heads E and *a*, which are part of the stationary and sliding frames, respectively, said screw being operated by means of gear wheels H and I and by a handle *b* or shaft J, all as set forth.

Second, the device for placing the plate N and the camera, which is supported by it, into an inclined position, said device consisting of the arrangement and combination with each other of the screw K, sliding nut L, pivoting arms M, and hinged plate N, all made and operating substantially as herein shown and described.

Third, the raising and lowering device of a camera stand, in combination with the device for inclining the camera when the same are made substantially as herein shown and described, and when operated by means of the screws G and K, respectively, as set forth.

**67,831.**—WILLIAM B. WILLIAMS, Warrenton, N. C.—*Cotton Plow.*—August 13, 1867.—The elongated winged points are intended for cultivating the cotton when the plant is young.

*Claim.*—The extension of the wing or wings of the point, also the curve of the point or points.

**67,832.**—JOHN M. WINSLOW, Rochester, N. Y.—*Eye Cup.*—August 13, 1867.—Explained by the claim and illustration. The object is to increase the convexity of the eye ball, which lessens with age.

*Claim.*—The instrument herein described, consisting of two cups to which rubber tubing is attached, connecting with a mouth piece, having an opening in the tube thereof for the purpose of exhausting the air by means of suction with the mouth, thereby producing a vacuum between the eyes and the cups, in the manner and for the purposes substantially as set forth.

**63,833.**—J. F. ZACHARIAS, Leesburgh, Va.—*Machine for Attaching Labels.*—August 13, 1867.—A roller distributes the mucilage over the bands that carry the printed paper, which in turn distribute it on the under side of the paper. When the paper has projected the required distance, the knife descending cuts it off, and dropping on the paper it is firmly pressed thereon by the gate.

*Claim.*—First, knife D provided with indentures *a*, in combination with the gate C provided with the pin S, as and for the purpose set forth.

Second, the adjustable projecting plate F provided with set screws *b b*, in combination with the lever G, link I, and swinging plate H, as and for the purpose set forth.

Third, the combination of rollers L and M, bands N and O, and supply roller R, arranged and operating in the manner substantially as shown and described, and for the purpose set forth.

**67,834.**—P. J. STEER, Washington, D. C.—*Check for Trunks.*—August 13, 1867.—The double pivoted cheeks fold inside the box as the lid shuts.

*Claim.*—The check *a b* when constructed and applied as and for the purpose set forth.

**67,835.**—JOHN N. FORDYCE, Cambridge, Ohio.—*Harrow.*—August 13, 1867.—The furrower is adjusted by a lever and a second lever operates the jack that elevates the harrow.

*Claim.*—First, the combination of an adjustable furrower with a harrow, substantially in the manner and for the purposes as herein described.

Second, the arrangement of the rods *g h*, roller *i*, clasps *d d*, staples *e e* and *o*, in combination with the furrowers and with the seat, substantially in the manner and for the purposes as herein described.

Third, the jack D D operated by lever F, substantially in the manner and for the purposes herein described.

**67,836.**—R. H. ALEXANDER, Plato, Ohio.—*Flour Bolt.*—August 20, 1867.—The weights slip on the radial arms and jar the bolt, or are secured from operating by hooks attached to the shaft. The central perforated cylinder forms the shaft of the bolt, through which the flour enters, being partially separated thereby.

*Claim.*—First, constructing a bolting reel with a hollow perforated shaft, such shaft being furnished with a hollow open end journal, all substantially in the manner and for the purposes described.

Second, the construction of the lever G G G<sup>1</sup>, so that it will operate upon the sliding hook rods *h h h<sup>1</sup> h<sup>1</sup>*, and cause the hooks *i i* to either stop or free all the knockers *g g*, or a portion of them, as may be desired, substantially as and for the purpose set forth.

**67,837.**—WM. D. ANDREWS, New York, N. Y.—*Bridle Rein.*—August 20, 1867.—The curb rein rises from the bit and passing through the gag loop descends to the check hook. An extension line is attached to the rein and connects with the hand of the driver as a supplementary rein.

*Claim.*—The safety riding or driving rein E, whether the same be made separately from, or are inclosed, and move freely within and through the ordinary driving reins A, or whether with or without check rein attached, as described, when the said reins are combined with arranged and attached to, the reins E, in the manner and arranged so as to operate as described for the purpose specified.

**67,838.**—JOHN AST, Maquoketa, Iowa.—*Sleigh Brake.*—August 20, 1867.—The pulley cord actuates the lever and brake.

*Claim.*—The combination of the cranks E and rod B and lever L with the slotted levers C C, so as to operate substantially as above described.



**67,839.**—NATHAN BARTLETT, Birmingham, Pa., and GEORGE T. LEWIS, Philadelphia, Pa.—*Manufacture of White Paint from Zinc Ores.*—August 20, 1867.—The products of combustion arising from the furnace come in intimate contact with the water as they pass from the furnace to the settling room. The steam mixes with the gaseous vapors before they come in contact with the water.

*Claim.*—The employment of steam, in combination with water, in the manufacture of white paint from zinc ores, the water being so arranged that the products of combustion arising from the furnace shall be caused to pass through or come in intimate contact with the water on their way from the furnace to the bags or settling chamber, and the steam being caused to mix with such products before they pass through or come into such contact with the water, substantially as set forth.

**67,840.**—JOHN H. BEACHER, Philadelphia, Pa.—*Valve for Gas Generators.*—August 20, 1867.—The valved regulator operates in combination with and forms a part of a gas generator, keeping up an even pressure.

*Claim.*—First, a valved regulator, constructed and operating substantially as set forth, in combination with and forming a part of a gas generating apparatus, as specified.

Second, the throttle valve composed of two disks with intervening strips of leather, as set forth.

**67,841.**—LOUIS BAUHOEFER, Philadelphia, Pa., (Henry Haner, executor).—*Muff.*—August 20, 1867.—The sheets of woolen material have a layer of cork in their several compartments; the cork acts as a non-conductor to increase the warmth of the muff.

*Claim.*—As a new article of manufacture, a muff consisting of two or more sheets of suitable material, cut, folded and stretched so as to form a number of compartments, each of which contains a body of cork, as set forth.

**67,842.**—JOHN B. BEERS, San Francisco, Cal.—*Amalgamating Precious Metals.*—August 20, 1867.—The batteries are lined with amalgamated copper wire gauze. The stem of each stump is wound with the same, with a strip of cloth underneath, and is placed on the platform in front of the battery with copper plates underlying. The sluices from the batteries are lined with a short amalgamated section of the same material, on which water is sluiced if it does not keep free from the lodgement of sand and sulphurets.

*Claim.*—The use of amalgamated woven wire gauze or amalgamated perforated sheet metal.

Also, in combination with amalgamated wire gauze or perforated sheet metal, the canvas or cloth arranged under the wire gauze or perforated metal.

Also, in combination with the amalgamated wire gauze or perforated metal, the use of corrugated amalgamated sheet metal, plates either with or without the canvas or cloth.

Also, in combination with amalgamated plates, the use of iron wire gauze or screens, arranged on or above the plates, substantially as described for the purpose set forth.

**67,483.**—ANDREW CANFIELD, Lyons, Iowa.—*Corn Plow.*—August 20, 1867.—The two side beams are jointed to backward projections from the central beam to which the single-tree is connected, and are adjustable transversely upon lateral stays of the beams and handles.

*Claim.*—The adjustable beams A A, with joint at B, and the open link C, also, the slotted bar D, with the clamps E E, when constructed, arranged and operating substantially as and for the purposes above set forth and described.

**67,844.**—ANDREW CANFIELD, Lyons, Iowa.—*Corn Plow.*—August 20, 1867.—The side beams are so hinged by the doubly bolted clevises to the central frame as to be adjustable laterally or removable therefrom.

*Claim.*—First, the double-bolted clevis B, for the purpose described.

Second, the adjustable stay bar D, for the purpose above described.

Third, the combination and arrangement of a one-

horse corn plow that may be readily changed to any required width, also changed to any number of shovels from one to three, making a single, double, or three-shovel plow.

**67,845.**—JOHN M. CAYCE, Franklin, Tenn.—*Portable Forge.*—August 20, 1867.—The treadle communicating with the fans forces a draft through the flues into the fire pot.

*Claim.*—The arrangement in a portable forge of the fire-pot D, the side tubes K K, discharging currents of air that meet at the center of the fire pot with the fans F F, the treadle H, and the tool shelf L, substantially as and for the purposes specified.

**67,846.**—JOHN M. CAYCE, Franklin, Tenn.—*Sporting Life Boat.*—August 20, 1867.—The light, foldable frame has water-tight cloth stretched over it, and has projecting side arms with outriggers at their extremities.

*Claim.*—First, the braces G G, in combination with the frame B<sup>2</sup> B<sup>3</sup>, rods H, keys g g, and reel A, substantially as and for the purpose described.

Second, the floats K K, in combination with the arms I I, attached to them and to the boat, substantially as described.

**67,847.**—S. B. COX, Buffalo, N. Y.—*Lid for Kettles, Pails, &c.*—August 20, 1867.—The flange of the lid rests on an inside rubber ring above the rim of the kettle. A thumb screw fastens the lid in its place, and the conducting pipe is attached thereto by a coupling.

*Claim.*—The combination with the grooved india-rubber ring, the fasteners, and the vessel and its cover or lid, the whole arranged and combined substantially as herein set forth, of the flexible conductor pipe C, secured to the said cover or lid by the screw joint D.

**67,848.**—DAVID DAVENPORT, Albany, N. Y., assignor to HENRY C. WILKINS, same place.—*Corn Candy Cutter.*—August 26, 1867.—The thin slabs are placed under the cutter within a recess on the top of the beam, made with sides formed by blocks supporting a metallic plate, the blades of the cutter passing through slots therein. The beam is supported by springs.

*Claim.*—The traversing block E, carrying the knives K K crossing each other and operated by the spring S S and treadle T, to cut the cakes of candy entirely across, in each direction, at one operation.

Also, the combination of the subject-matter of the above claim with the slotted plate b, the recess a beneath it, as described.

**67,849.**—JOSEPH DIXON, New York, N. Y.—*Tunnel.*—August 20, 1867.—The pipes are segmental, the edges resting on masonry, and are formed of sub-segments bolted together by outturned flanges on their edge.

*Claim.*—A subterranean or submarine tunnel, the walls and roof of which are constructed of rectangular metallic plates, each one of which has a lip or flange turned up around its four edges, the plates being bolted together through the flanges, arranged so as to break joints, and packed tightly at the seams, substantially in the manner and for the purpose specified.

**67,850.**—JOHN A. DODGE, Auburn, N. Y.—*Harvester Rake.*—August 20, 1867.—The rake and reel arms are so arranged that though following the same track and continuously revolving, the reel bars will be raised from the grain after presenting the same, while the rake will sweep the grain from the platform.

*Claim.*—First, the combination, substantially in the manner described, of the continuously-revolving rake and reel arms, all traversing the same track and controlled by the same guide, with a guide which lifts the beaters or reel vanes suddenly after pressing the grain back upon the platform to avoid disturbing the gavel while the rake passes over the platform to take off the grain without being lifted.

Second, the combination, as described, of the arch f with removable block i, for the purpose of adapting the beater arm to be changed to a rake arm, and vice versa.



Third, the arch or bend *f* in the rake arm, as and for the purpose described.

**67,851.**—JOHN A. DODGE, Auburn, N. Y.—*Harvester Rake*.—August 20, 1867.—The rake and reel arms travel the same cam track, but the rake arms are bent up reetangularly to allow a continued sweep on the platform, and are so arranged as to be kept down by a cam plate, while the reel arms are carried above the grain.

*Claim.*—First, the combination, substantially as described, of a cam plate and locking washer with a fixed spindle, for the purpose set forth.

Second, the combination, substantially in the manner described, of a series of rising and falling rake and reel arms revolving around a fixed spindle or axis, with a cam guide to control their vertical movements, a cam plate to hold the rake down when raking off and locking washer to hold the cam plate firmly in position.

**67,852.**—JOHN A. DODGE, Auburn, N. Y.—*Harvester*.—August 20, 1867.—The rake is operated by a chain passing over the sprocket wheel and over a corresponding pulley connected with the train of gearing by which it is driven.

*Claim.*—First, the combination of the driving axle, flanged thimble, and sprocket wheel, arranged for joint operation, substantially as described.

Second, the combination, substantially as described, of the loose driving wheel, the driving axle, the flanged thimble, the sprocket wheel, and the retaining collar E, for the purposes set forth.

**67,853.**—JOHN A. DODGE, WILLIAM H. STEVENSON, and HOWARD S. STEVENSON, Auburn, N. Y.—*Harvester Rake*.—August 20, 1867.—The rake bars are pivoted to a revolving sleeve, and the operating cam of the same is attached to a fixed sleeve on the same tubular post. By the removal of the cam sleeve the arms are freed on their pivots, or their sleeve may be slipped off.

*Claim.*—First, the combination, substantially as described, of the combined rake and reel arms with the collar, the cam groove, and the fixed rake post.

Second, the combination, substantially in the manner described, of the cam guide and rake post, whereby the flanged collar, to which the raking and reeling mechanism is attached, can be removed by detaching the cam guide from the rake post.

**67,854.**—AUGUSTUS F. DOEBERT, Lancaster, N. Y.—*Meat Chopper*.—August 20, 1867.—The vertical bars that carry the knives are adjusted by set screws with rubber stops to break the concussion. The rotating block presents fresh surfaces to the cutters.

*Claim.*—First, the combination and arrangement of the set screws K K and rubber cushions L L with the timbers E E, carrying the knives D D, for the purpose and substantially as set forth.

Second, the revolving chopping block B, having an intermittent revolving movement and a ratchet wheel I connected therewith, in combination with the pawl J and crank H<sup>2</sup>, for the purpose and substantially as herein described.

**67,855.**—MATTHEW M. DONNELLY, Cincinnati, Ohio.—*Molders' Flask*.—August 20, 1867; antedated August 11, 1867.—The bolts connecting the side bars pass through slots in the adjustable end plates. To compensate for wear of the plates the nuts are loosened and the guide pins forced down on the notches.

*Claim.*—An improved molders' flask, with adjustable ends, constructed in the manner substantially as and for the purpose set forth.

**67,856.**—MATTHEW M. DONNELLY, Cincinnati, Ohio.—*Molders' Flask*.—August 20, 1867; antedated August 11, 1867.—When the guiding surfaces are worn the guide pins are set inward by using a drift on the surface of the soft metal around the pins.

*Claim.*—The combination of the lug F with its countersunk hole *f*, in combination with the pin E, with its waist *e*, when the two are united and held together by soft metal, in the manner described.

**67,857.**—JOSIAH W. ELLS, Pittsburg, Pa.—*Forming a Steel Surface on Sheet and Bar Iron*.—

August 20, 1867.—The wrought bar is raised to a welding heat, placed in a flask, and molten steel poured in upon the bar.

*Claim.*—The herein-described method of forming a cast-steel surface on bars or sheets of wrought iron.

**67,858.**—F. ERNST, San Francisco, Cal.—*Clothes Washer*.—August 20, 1867.—The clothes are placed in the suds between the fixed and movable foraminous disks and then boiled; the water is drawn off at the bottom and fresh water added.

*Claim.*—Placing the fabrics to be washed between perforated plates or sieves E and D, in a closed vessel of any suitable construction, so that a vacuum F may be created beneath the lower plate, substantially as described.

**67,859.**—HORACE EVERETT, Philadelphia, Pa.—*Metal Can for Putting up Alkalies*.—August 20, 1867.—A cylinder is first formed, its edges are turned down, flattened, and flared outward. The covers are placed over the ends and their edges bent in so as to clasp the flaring edges of the cylinder.

*Claim.*—The within described can composed of a sheet-iron cylinder with folded and compressed ends, and cover, and bottom, adapted to the said ends, all as set forth for the purpose specified.

**67,860.**—JAMES B. EWELL, Baltimore, Md.—*Seeding Cultivator*.—August 20, 1867.—Each plow opens a furrow and covers the seed dropped in the furrow ahead. The roller following smooths the surface. For broadcast sowing the plows are lifted from the ground by the lever connecting therewith and an apron placed in front of them on which the seeds fall from the cylinder and are scattered thereby.

*Claim.*—First, the detachable swiveling front truck constructed and combined with the frame, as described.

Second, the combination, substantially as described, with the main frame of the diagonally-arranged plows, having drag bars of varying length.

Third, the combination, substantially as described, of the diagonally-arranged rocking lever and cams with the vertically moving plow beam L.

Fourth, the combination, as described, of the diagonally-arranged hopper and feed cylinder with the frame.

Fifth, the combination of the diagonal seeding cylinder, the driving gear, and the shipping mechanism, with the main frame and driver's seat, as and for the purpose described.

Sixth, the combination, substantially in the manner described, in a seeding cultivator, of a seed hopper, a feeding cylinder, and a series of plows all arranged diagonally to the path of the machine.

Seventh, the combination, substantially in the manner described, of the leading truck, the cultivating mechanism, and the seeding mechanism and the roller.

**67,861.**—WM. R. FERGUSON, Marseilles, Ill.—*Hooks and Terrets*.—August 20, 1867.—The terrets and hook are secured by rivets to the outer layer of the back pad.

*Claim.*—A hook F, and terrets G G, having bases D C C, made to fit the outer layer A of the back pad, and secured to it by means of rivets *h h h h* and washers J J J J, substantially as and for the purpose herein specified.

**67,862.**—GEORGE B. FIELD, New York, N. Y.—*Ore-roasting Furnace*.—August 20, 1867.—The various parts of the agitating apparatus are made tubular for the admission of steam and water to prevent their destruction from heat.

*Claim.*—First, the tube G, in connection with the agitating apparatus, substantially as and for the purpose described.

Second, the eduction pipe H, having its extremity bent upward, substantially as and for the purpose specified.

Third, the introduction of water or steam inside of hollow shelves, rakes, or agitators for the stirring or manipulating of ores in ore-roasting furnaces, substantially as and for the purpose specified.

Fourth, the introduction of steam generators in the inside of roasting furnaces for the purposes specified.



**67,863.**—ANDRÉ FOUBERT, New York, N. Y.—*Apparatus for Distilling and Rectifying Spirits.*—August 20, 1867.—Watery particles condense in the upper part and run back and the spirit running down the pipe into the still is vaporized before reaching the bottom. The vapor next passes into the agitating condenser, the rectifying column, the condensing worm, and to the supplementary condenser below, from which the spirit is drawn.

*Claim.*—First, the agitating condenser, formed with the diaphragms *h*, the vapor pipes *i*, the caps *k* and pipe *o*, supplying water for cooling the liquid on the diaphragms, as and for the purpose specified.

Second, the arrangement of the still *d*, the agitating condenser *n*, the rectifying column *p*, and the condensers *a* and *t*, as and for the purposes specified.

**67,864.**—ANDRÉ FOUBERT, New York, N. Y.—*Apparatus for Distilling Spirits.*—August 20, 1867.—The tubes rise through the condensing liquid upon a series of diaphragms and have caps to direct the vapors into the liquid.

*Claim.*—The still *a*, into which the diaphragms *g* *h* *i*, pipes *k*, and caps *l*, are introduced, the water being returned to the still by the pipes *m* *n*, and the temperature of the liquid on the diaphragms being regulated by water flowing through the pipes *o* *o*, as set forth.

**67,865.**—MERWIN FOWLER, Wolcottville, Conn., assignor to TURNER, SEYMOUR and JUDDS, same place.—*Machine for Making Buckles.*—August 20, 1867.—The dies stand radially around a central former and act progressively to bend the wire into the desired shape, providing for the double bend in the sides of the buckle frame. The former is divided and forced together to crimp the wire.

*Claim.*—The series of dies, constructed and arranged substantially as specified, and acting successively to bend up a piece of wire into a buckle bow or frame, substantially as set forth.

**67,866.**—JOHN FRENCH, Newport, Ky.—*Boiler Gauge Cock.*—August 20, 1867.—The spiral valve stem rotates as it rises and falls, and thereby keeps the body of the cock free from deposits.

*Claim.*—First, the spiral valve stem *A*, in combination with the body of the cock *C*.

Second, the spiral valve stem *A*, the button or cap *B*, in combination with the body of the cock *C*, substantially as described.

**67,867.**—F. H. FURNESS, Cleveland, Ohio.—*Steam Engine Oil Cup.*—August 20, 1867.—The cup is screwed to the cross-head and the weighted vibrating rod actuates the plug through the ratchet wheel attached thereto, periodically opening the ports and discharging oil down the stem.

*Claim.*—First, in combination with an oil cup, a pawl and ratchet, so arranged as to operate the key or plug of said oil cup, substantially as set forth.

Second, the pendulum *F*, ratchet wheel *J* and pawl *K*, in combination with the plug *D*, substantially as and for the purpose set forth.

Third, the gauge or regulating screw *F* and plug *D*, in combination with the oil cup, substantially as and for the purpose described.

**67,868.**—G. G. GARIBOLDI, Buffalo, N. Y.—*Marble Cement.*—Aug. 20, 1867.—A polished cement facing for stone or brick buildings. The wall is covered with mortar, which is allowed to dry. A second coat is applied, consisting of fine sand, marble dust and white lime, in equal proportions. The third coat consists of lime, 3 parts; marble dust, 3; soap, 1; coloring matter being added. The wall is then painted in imitation of marble, and polished with a hot trowel.

*Claim.*—A marble cement, made, applied, and used in the manner substantially as herein described.

**67,869.**—JOSEPH GATLEY, Philadelphia, Pa.—*Cooler for Liquors on Draught.*—August 20, 1867.—The cooler hangs from the faucet, the nozzle of which enters the pipe that conveys the liquor through the ice.

*Claim.*—The cooler *A*, suspended from beneath the faucet *B*, or tap hole, or other opening through which

liquors are drawn from their containing vessels, substantially as shown and described.

**67,870.**—H. C. GOODRICH, Chicago, Ill.—*Tuck Marker for Sewing Machines.*—August 20, 1867.—The cloth gauge has three projections extending over the material, keeping it in place, and marking and forming the tucks in accordance with the width required.

*Claim.*—First, providing a tuck marker, to be used upon a sewing machine, with a flange or lip *b*, arranged in relation to the creasing devices, and operating substantially as and for the purposes set forth.

Second, in combination with a tuck marker provided with a flange or lip *b*, the arrangement of a gauge *D*, provided with the projections *E F*, substantially in the manner and for the purposes described.

Third, the combination of the tucker *A*, provided with the lip *b*, and measuring scale *B*, and with the spur *c*, with the gage *D*, provided with the projections *E F*, when arranged and operating substantially in the manner and for the purposes described.

**67,871.**—W. P. GOOLMAN, Dublin, Ind., assignor to DAVIS, LAWRENCE & CO., same place.—*Platform Scale.*—August 20, 1867.—By the suspension of levers below the platform inaccuracy from uneven loading is avoided. The balance weight upon the end of the steel-yard is placed above the level of the fulcrum and secured by its cap.

*Claim.*—First, the balance weight upon the end of the steel-yard beam, above the level of the fulcrum, when constructed with a cup *B*, for piercing such weights as may be necessary in the adjustment of the steel-yard beam and cap *B*, substantially as described.

Second, the combination of the cup *B* and cap *B*<sup>1</sup>, when the latter is constructed with its sides of unequal weight, substantially as and for the purpose set forth.

Third, the corner irons *K*, supporting the hooked and notched hanger *K*<sup>1</sup>, in combination with the notched blocks *K*<sup>2</sup>, supporting the platform levers, substantially as set forth.

Fourth, the levers *F G H* and *I*, constructed with an eye in the end, and knife-edged bearing *H*<sup>1</sup>, in combination with the rocker block *K*<sup>2</sup>, on which they are suspended, substantially as described.

Fifth, the combination of the rocker-block *N*<sup>2</sup>, ball blocks *N*, ball *N*<sup>1</sup>, and check blocks *L*<sup>1</sup>, substantially as set forth.

Sixth, the combination of the frame *L*, check block *L*<sup>1</sup>, and rods *M*, substantially as and for the purpose set forth.

Seventh, the combination of the shears *O* with fins *O*<sup>1</sup> and the notched pivots *P*, substantially as and for the purpose set forth.

**67,872.**—G. B. GRIFFIN, Madison, Wis.—*Clothes Line Reel.*—August 20, 1867.—The line extends around pulleys from post to post, and is tightened on the reel by a hand crank. The dog engaging in the ratchet wheel arrests reaction.

*Claim.*—The frame *A*, the reel *B B*<sup>1</sup> *B*<sup>2</sup>, the line *C*, and the blocks *E E*, when combined and arranged as described.

**67,873.**—H. M. GUILD, Springfield, Mass.—*Mop Head.*—August 20, 1867.—The clawed jaws retain their hold on the mop by the engagement of the nut on the corrugated shanks of the jaw.

*Claim.*—The arrangement of the jaws *A B*, hinged at *C*, and having the threads *a a*, &c., of the screw cut thereon, in combination with the nut *E*, arranged so as to fit said screw threads *a a*, and to bring together the jaws *A B*, by turning the end holding the mop, substantially as shown and described.

**67,874.**—DAVID HALE, Boston, Mass., assignor to himself and ALFRED HALE, same place.—*Apparatus for Attaching Weights to Submarine Armor.*—August 20, 1867.—The weighted box has a series of vertical pockets and eyelet flanges, for attachment to the helmet and dress of the diver.

*Claim.*—A weight-holding and attaching device for submarine armor, the same consisting of the box, divided into weight pockets or compartments, and having eyeletted flanges for securing it in place, substantially as shown and described.



**67,875.**—H. M. HAMILTON, New York, N. Y.—*Miner's Pick*.—August 20, 1867; antedated, August 1, 1867.—The pick eye has two opposite sides parallel, so as to hold the handle from shaking, the flaring sides preventing withdrawal.

*Claim.*—A pick or mattock, constructed with an eye open at each end, and whose sides are partly parallel and partly flaring, and adapted to the introduction of a handle whose sides are of counterpart form, and whose flaring sides are adapted to wedge in said eye, substantially as described and represented.

**67,876.**—C. F. HERRICK, Independence, Iowa.—*Curtain Fixture*.—August 20, 1867.—The cord is run on the pulley when raising or lowering the blind, and is passed over the cam when used as a supporting cord.

*Claim.*—The cam E provided with a groove in combination with the cord I, yoke C, and rail A, substantially as and for the purpose set forth.

**67,877.**—ROBERT HITCHCOCK, Springfield, Mass.—*Car Ventilator*.—August 20, 1867.—The pivoted valve is blown back throwing its top forward. The air rushes through the upper passage while the cinders and ashes are deflected below.

*Claim.*—The combination of the valve E having the cap c, with the case A, having pieces C and C', and vent hole F, the whole being constructed and arranged substantially as herein described.

**67,878.**—HIRAM A. HURD, Seymour, Conn.—*Shaft Coupling*.—August 20, 1867.—The dovetailed coupling is locked by a bolt that is secured by a thumb screw.

*Claim.*—A coupling on the face of each part, of which are formed projections E E and recesses D D, one side *a* of each of the projections of a dovetail form, the other side *d* at right angles, the two parts set together and secured by key G inserted between the right angles or parallel sides, substantially as herein set forth.

**67,879.**—W. G. HYNDMAN, Cincinnati, Ohio, assignor to himself and HENRY MARTIN.—*Brick Machine*.—August 20, 1867.—The clay is forced alternately through two outlets in a continuous web to the required length and cut off by a taut wire frame.

*Claim.*—The "wiper" D, with its flange *d*, conducted and operating substantially as and for the purpose herein specified.

Also, the construction of the outlets G G, with the rounded or chamfered corners *g g*, and abrupt corners *h h*, substantially as and for the purpose herein set forth.

Also, the conical or tapering die rollers *n n*, for the purpose herein set forth.

Also, the arrangement of the rollers *n n* so as to be adjustable out and in between the rollers *m m*, substantially as and for the purpose herein specified.

Also, the device for fastening the cloth covering around the die rollers, consisting of the longitudinal and annular grooves *r t t* and fastening strips of wood, or equivalents, substantially as set forth.

**67,880.**—SAMUEL H. JONES, Sandy Spring, Md., assignor to himself and CHARLES W. BREADY, same place.—*Cement for Lining Oil Barrels*.—August 20, 1867.—Composed of glue, 1 pound; chalk,  $\frac{1}{4}$  pound; alcohol, 1 pint; turpentine,  $\frac{1}{2}$  gill; water,  $\frac{1}{2}$  pint; put into a 40 gallon barrel, which is coated by moving the same.

*Claim.*—The mixture and cement of glue, chalk, alcohol, turpentine, and water, in their several proportions, as herein described and for the purposes set forth.

**67,881.**—GEORGE F. KENDALL, Fitchburg, Mass., assignor to E. M. DICKINSON & Co., same place.—*Thread Waxed for Sewing Machines*.—August 20, 1867.—The thread enters the side of the semicircular trough, through the tension aperture under the depressor, thence passes over the shaft and between the two elastic expressor disks.

*Claim.*—The arrangement and combination of the rotary elastic disks *g h* with the shouldered shaft or pin, the collar, the nut, and the screw of the pin, the whole being applied to or arranged with the trough and the depressor, as set forth.

Also, the construction of the trough with the shoulder *a* at its bottom, and with the rotary depressor applied to the trough, so as to operate with such shoulder as set forth.

**67,882.**—L. G. KNIFFEN, Worcester, Mass.—*Harvester*.—August 20, 1867.—The axle has an inside gear wheel, which is so connected to it by a spring pawl as to prevent back but insure forward rotation. The ratchet may be unclutched by a lever, which traverses a diagonal slot of a sleeve on the axle. The driving wheels of the cutter are so connectable to this driving gear wheel as to insure faster or slower movement of the cutter for mowing or reaping respectively.

*Claim.*—First, the combination substantially as described, with the main axle, of the main gear wheel C, the spring ratchet *c*, the eccentrically slotted tubular bed piece D, and the shipping lever C', for the purpose of throwing the mechanism into and out of gear.

Second, the combination, as described, of the main gear wheel, the counter-shaft, carrying gears of different sizes, and a shipping lever, with the crank shaft and its pinions, all the axles being arranged with their axes parallel to each other, for the purpose of changing the speed to adapt the machine to either reaping or mowing.

**67,883.**—L. G. KNIFFEN, Worcester, Mass.—*Harvester*.—August 20, 1867.—The shoe has two bearings, one of which forms a socket matching a corresponding pivot in the coupling arm; the other forming a clasp, embracing the hanger through which the pitman vibrates. It is convertible into a front or rear-cutting machine.

*Claim.*—First, the shoe L, constructed and arranged to operate as and for the purposes described.

Second, the combination with the hollow vibrating coupling arm, through which the pitman vibrates endwise, of the shoe clasp and oscillating around the coupling arm, all the parts being constructed and arranged for joint operation, in the manner described.

Third, the combination, as described, of the finger beam, the detachable hinged shoes, the coupling arm, and the brace rod, with the tubular bed piece, for the purpose of changing simultaneously from a front to a rear-cut machine, and from a mower to a reaper, or vice versa.

**67,884.**—L. G. KNIFFEN, Worcester, Mass.—*Harvester*.—August 20, 1867.—The rear seat is attached to the free end of an oscillatable spring arm. The divider side of the platform is sustained by the usual grain wheel. The gearing side is upheld by a spring catch on the frame which engages a detent pin on the coupling arm. Both wheel and detent are adjustable to set the platform at any elevation.

*Claim.*—First, the arrangement, as described, in a two-wheeled hinged-jointed harvester, of the swinging raker's seat, with respect to the tubular main frame, driving wheels, and reversible couplings, as set forth.

Second, the combination of the main frame and coupling arm with the adjusting spring catch V, as and for the purpose described.

Third, the driver's or raker's seat, constructed of independent springs, as described.

**67,885.**—L. G. KNIFFEN, Worcester, Mass.—*Harvester*.—August 20, 1867.—The swinging ratchet sustains the cutting apparatus when swung up by the right-angled lifting lever. The lifting and tilting lever are so combined that the driver can by a single movement lift the finger beam horizontally or turn it up vertically.

*Claim.*—First, the socket plate O, constructed to act both as a support for the lifting and tilting mechanism and as a detent to hold the finger beam vertical when folded for transportation, substantially as described.

Second, the combination of the lifting lever with the swinging ratchet, arranged and operating as described.

Third, the combination and arrangement, substantially as described, of the socket, the lifting lever, and the swinging ratchet with the main frame and cutting apparatus.

Fourth, the combination, substantially as described,



of the lifting lever, the tilting lever, and the hand lever, for the purpose of either lifting or tilting the cutting apparatus.

**67,886.**—GEORGE S. KNIGHT, Syracuse, N. Y.—*Machine for Turning Axles.*—August 20, 1867.—The spindles are turned to form by a suitably shaped cutter secured to one of two jaws which approach each other by the rotation of a right and left hand screw in a fixed rest.

*Claim.*—An improved machine for turning axles and shafting, composed of the movable jaws B and C, cutters or "clamp mills" F and G, and screw D, or their respective equivalents, all made, arranged, and operating substantially as and for the purpose herein shown and described.

**67,887.**—W. KRAMER, Milwaukee, Wis., and JOSEPH WISE, New York, N. Y.—*Cigar Machinery.*—August 20, 1867.—The bed has a receptacle for the filling. An apron lying on the bed, and a roller moving along it, cause the rotation of the filling and the wrapping around it of the binder while held in a tight of the apron and drawn along by the roller.

*Claim.*—First, the table *c*, apron *e*, and mold *d*, in combination with the roller *i*, substantially as and for the purposes set forth.

Second, a removable mold for the reception of the filling tobacco, in combination with an apron passing into such mold, substantially as and for the purposes set forth.

Third, the arrangement of the roller *i*, stock *h*, table *c*, mold *d*, and tightening roller *g* for the apron *e*, as and for the purposes set forth.

Fourth, the roller *l*, fitted and actuated substantially as specified, in combination with the cloth *o* and roller *p*, as and for the purposes set forth.

**67,888.**—ISRAEL LANCASTER, Baltimore, Md.—*Harvester Rake.*—August 20, 1867.—The rake strikes the grain parallel with the cutting bar and carries it back and drops it against the adjustable fender on the binder platform.

*Claim.*—The application to reapers with grain-binding attachment, having the platform in the rear of the reaper platform and parallel to it, of rake and fender, constructed and operated substantially as described and for the purpose mentioned.

**67,889.**—GEORGE W. LANE, Plantsville, Conn.—*Hinge.*—August 20, 1867.—The hooks clasp the bolt and engage in the slots of the adjoining plate.

*Claim.*—The two parts of the hinge A and B, constructed so as to be attached together and operate in the manner described.

**67,890.**—W. E. LEVOY, Cincinnati, Ohio.—*Plow.*—August 20, 1867.—The draw-bar of the plow passes through a ring bolt at the clevis, by which the depth of furrow is adjusted. The adjustable shackle bar enables an adjustment of the rear pivot of the mold-board to incline the latter to the slope of the hill.

*Claim.*—First, the mode of adjusting the land of the plow, substantially as set forth and described.

Second, the peculiar form and curves of the mold-board B, substantially as set forth and described.

Third, the particular form and construction of the upright or sheath G with the brace I, the socket T, and the draft rod J, in connection with the adjustable bar K K', with the nut L and pin O, as set forth and described.

Fourth, adjusting the angle of the plow to any required slope of ground or to level land, by means of the adjusted shackle bar H, or its equivalent, substantially as set forth and described.

**67,891.**—JONATHAN LUTHER and ALEXANDER MARSH, Worcester, Mass.—*Window-Blind Fastening.*—August 20, 1867.—The spring vibrating catch attached to the sash engages in a staple on the easing.

*Claim.*—The peculiar formation of a base or main piece with shoulders and lips *a a*, as shown in Figs. 1 and 3, in combination with spring F, lever C C C, and pin E, as shown in Fig. 2, for the purpose as above described.

**67,892.**—JOHN H. LYNCH, Baltimore, Md.—*Night Cart.*—August 20, 1867.—The shutters are both at the rear part of the box. The upper shutter is held

down by levers and holding chains. The discharge shutter is pivoted at the upper edge and is operated by segmental racks and pinions turned by a hand lever. The joints are packed to prevent leakage.

*Claim.*—First, the box A, provided at the rear with a tight-fitting shutter I, operated by means substantially as described.

Second, the door C, with packing membrane and rounded corners, and secured substantially as described.

**67,893.**—H. MANSFIELD, Warsaw, Ind.—*Animal Trap.*—August 20, 1867.—The post rising from the center of the circular rabbeted base has a pulley on top from which is suspended the baited cord. A slight pull on the cord trips the loop, thereby detaching the dome, which descends on the platform.

*Claim.*—The combination of thimble D, cup C, cord I, pulley J, hooks *o*, loop H, and standard B, when constructed substantially as and for the purpose set forth.

**67,894.**—A. J. MARSHALL, Warrenton, Va.—*Ventilating and Warming Railroad Cars.*—August 20, 1867.—The air from the blower upon the locomotive traverses the space in the double roof of the car and circulates in the chamber containing the stove, from whence it is distributed through pipes and registers to various parts of the car.

*Claim.*—First, in combination with a pneumatic engine, which is arranged in front of a locomotive, and adapted for being driven by means of an engine operating independently of the locomotive-driving engine, the arrangement of a primary conduit, constructed as described, with flexible connections, and forming the passenger coach, and adapted also to serve as a medium through which to supply and condense air in such coach, substantially as described.

Second, in combination with a primary conduit C' for conducting air and forming the roof of a railway coach, as described, the secondary conduit E, arranged within the car and communicating with the said primary conduit for the purpose of abundantly distributing pure air to service pipes *b b*, which are provided with registers *c* and arranged substantially as described.

Third, in combination with a railway coach having a double roof or air conduit communicating with and receiving air from a forcing engine arranged upon the locomotive, means, substantially as described, for warming said air and distributing it throughout the coach, substantially as described.

Fourth, the warm air distributing conduits or foot rests *g g*, applied beneath or between the seats of a railway coach, provided with registers and communicating with air-heating apparatus, substantially as described.

**67,895.**—JOHN W. MCGILL, Washington, D. C.—*Paper Fastener.*—August 20, 1867.—The ends of the flexible brass plate turning round pass through the slot in the middle, and bending over secure the fastening.

*Claim.*—The within described fastener, made of a single piece or strip of sheet brass or other flexible material, bent into a T-shape by having the ends which form the legs or shanks turned over or under and run through a hole in the enlarged center of the head of the fastener to secure said legs or shanks tightly together, so that when said legs or shanks are run through the paper or other material designed to be bound and turned down on the other side they will not enlarge the hole in the paper, but will lie snugly together and make a close joint, substantially as herein set forth and described.

**67,896.**—ALEXANDER MILLAR, Roxbury, Mass., assignor to himself and ALFRED ODMORNE, Medford, Mass.—*Oiler and Filler.*—August 20, 1867.—Improvement on the patent of John King, July 10, 1866.—The oiler has a false bottom, the chamber beneath communicating with the spout, and a cylinder having a spring piston whose rod is connected to a sliding strip passing along the handle staff. The false bottom has an inwardly opening valve.

*Claim.*—In combination with the reservoir ejecting pipe, cylinder, and piston the false bottom *c*, shallow chamber *d*, and valve *f*, constructed and arranged to operate substantially as set forth.



**66,897.**—JOHN S. MILLER, Springfield, Mass., assignor to himself and L. L. DAVIS, same place.—*Car Spring*.—August 20, 1867; antedated August 5, 1867.—Explained by the claim.

*Claim.*—The combination and arrangement of the spring for cars, &c., formed of a cushion of air inclosed in a case C of rubber, or similarly elastic material, placed within a cylinder A operated upon by a piston B, the whole constructed and operating substantially as described.

**67,898.**—ANSON MILLS, U. S. A., Fort Bridger, Utah.—*Cartridge Belt*.—August 20, 1867.—The extensible leather belt has leather sockets for metallic cartridges and a flap to cover them.

*Claim.*—The combination and arrangement of a series of receptacles *a a* for metallic cartridges with a pliable band or belt A formed and fitted to be worn about the body, substantially as herein set forth.

**67,899.**—WM. A. MORSE, Philadelphia, Pa., assignor by mesne assignments to himself.—*Pen Holder and Eraser*.—August 20, 1867.—The eraser is attached to the tip or to a shield on the top end of the holder.

*Claim.*—First, the combination of the eraser D with the tip B and the handle A of a pen holder, as shown and specified, and for the purpose set forth.

Second, the combination of the eraser D, Fig. 2, cap or shield H, and handle *s* of a penholder, as shown and for the purpose specified.

**67,900.**—O. B. OLMSTEAD, Beloit, Wis.—*Adjustable Stove Pipe Shelf*.—August 20, 1867.—The perforated plate fitting round the pipe is supported on the ribs by brackets attached to the pipe.

*Claim.*—First, an improved stove pipe shelf A A, constructed of a perforated disk, in two parts.

Second, in combination with the foregoing, the collar K with the projections D D, as and for the purposes specified.

Third, the ribs C C, when the whole is constructed substantially as herein set forth, for the purpose specified.

**67,901.**—S. R. PARKHURST, Bloomfield, N. J., assignor to EMILY R. PARKHURST.—*Machine for Cleaning Wool*.—August 20, 1867.—Improvement on his patent, July 24, 1866. A carding mechanism is combined with the picker, covered by previous patent, to deliver the material in slivers or bats.

*Claim.*—First, the carding cylinder *a*<sup>2</sup>, in combination with the cylinder *f* or *g*, stripper *h* or *i*, and picker cylinder *u*, substantially as and for the purposes specified.

Second, the doffer *e*<sup>2</sup>, in combination with the mechanism, substantially as specified, for opening and cleaning wool or other fiber, whereby the said fiber is delivered from the picking or cleaning mechanism in the form of a sliver or bat, substantially as set forth.

**67,902.**—WILLIAM PETTINGELL, Painesville, Ohio.—*Fence*.—August 20, 1867.—The two angular dovetailed half tenons of the base fit into corresponding angular dovetailed mortises in the bottom of the post, and are secured by the clip ring and screw bolt.

*Claim.*—First, the base herein described and constructed as shown in Figs. 2, 5, 3, 6, and 7, viz.: the the skeleton or open halves D D, angular dovetailed tenons F F, lugs H H, rim G, broad flat ring I, provided with notches J J, combined, arranged, and operating as and for the purpose set forth.

Second, the said described base, in combination with the halves of the post herein described, provided with angular dovetailed mortises K K, Fig. 8, and the bolt shown in Fig. 1, as and for the purpose set forth.

**67,903.**—A. PHILIPPI, Elizabethport, N. J.—*Railroad Frog*.—August 20, 1867.—The cast-iron chair is grooved for the reception of the frog and rails. Strips of wood, the grain of which runs crossways, are interposed beneath the rails. The rails and frog are secured to the chair by bolts.

*Claim.*—The construction and arrangement of the frog-point A and side rails B B', secured to the chair C by means of bolts *e e* passing through the body of the rails and frog-point and countersink in the same, in combination with the wooden beds D, placed in

the chair C, and upon which the frog-point A and side rails rest, the grain of the wood running crosswise, in the manner and for the purpose specified.

**67,904.**—JAMES G. RALPH, Aurora, Ill.—*Adjustable Hinge*.—August 20, 1867.—The leaves of the hinge slide on plates attached to the shutter and frame, and have slots traversed by screws which engage the plates and woodwork.

*Claim.*—The arrangement and combination of the hinge A A, and plates D, when constructed substantially as and for the purpose set forth.

**67,905.**—LOUIS RANSOM, Lansingburg, N. Y.—*Travelling Trunk*.—August 20, 1867.—The cylindrical trunk has longitudinal division into sections, which are hinged together; it has raised circumferential hoops to act as wheels in moving.

*Claim.*—First, a travelling trunk, which when closed, as in Fig. 1 of the drawings, shall have the form of a cylinder.

Second, in combination with a cylindrical travelling trunk, two or more raised hoops or bands around the circumference thereof, to serve as wheels upon which the trunk may be rolled, while they protect the body of it from contact with the ground.

**67,906.**—T. K. REED, East Bridgewater, Mass., assignor to DAVID WHITEMORE, North Bridgewater, Mass.—*Sewing Machine*.—August 20, 1867.—The crotch formed needle works in combination with a perforated foot. The said foot is brought down upon the leather while the needle is piercing the same.

*Claim.*—In combination with hook, needle, and cast-off, the supplemental presser foot, constructed and operating substantially as and for the purpose set forth.

**67,907.**—M. B. RENSLOW, Springfield, Mass., assignor to himself and FLAVIUS SEARLE, same place.—*Apparatus for Making Nitrous Oxide, &c.*—August 20, 1867.—The gas produced is passed through a receiver having a stop cock, which may be set to allow the escape of any amount desired. The receiver has an elastic top, and a convex plate resting thereon, which, being raised by an increased supply of gas, depresses the lamp through connections therewith and decreases the production.

*Claim.*—First, controlling the amount of heat used in generating nitrous oxide or other gases, by means of a regulating or changeable outlet *p*<sup>1</sup>, applied to a gas receiver having a variable capacity, when used in combination with a device for regulating the flame beneath the generating retort, substantially as described and herein set forth.

Second, the variable receiver *a*, having a changeable outlet *p*<sup>1</sup>, in combination with the rod *e* and the lever *f*<sup>2</sup>, all constructed and operating substantially as described and for the purposes herein set forth.

Third, the variable receiver *a*, having a changeable outlet *p*<sup>1</sup>, in combination with the rod *e*, the bar *d*<sup>1</sup> and lever *d*<sup>2</sup>, all constructed and operating substantially as described and for the purpose specified.

Fourth, in combination with the lever *f*<sup>2</sup>, the spring *y*, and piece *f*, having the pin *y*<sup>1</sup>, all constructed and operating substantially as described and for the purpose herein specified.

**67,908.**—WILLIAM W. REYNOLDS, Brandon, Vt., assignor to HOWE SCALE COMPANY, same place.—*Platform Scale*.—August 20, 1867.—The links on which the weighing levers are suspended are sustained by pins in slots of the bed; bearing pieces are laid in the links to receive the impact of the knife-edged ends of said levers.

*Claim.*—The arrangement of the links H, as shown and described, to wit: having the links fitted in slots *i* in the bed or framing A, and resting on pins *j*, as shown in Figs. 3, 4, and 5, of the drawings.

**67,909.**—JOHN RICHARDSON, New Haven, Conn.—*Apparatus for the Manufacture of Vinegar*.—August 20, 1867.—The liquor runs into a tilting box, which empties the same in sufficient quantity to flood the perforated bottom for equal distribution on the same.

*Claim.*—The arrangement of the self-dumping



bucket, so as to operate to empty into the generator, substantially as and for the purpose specified.

**67,910.**—A. J. ROBERTS, Boston, Mass., assignor to himself and B. F. BROWN, Dorchester, Mass.—*Machine for the Manufacture of Horseshoes.*—August 20, 1867.—The bar is automatically fed into the machine; each blank is in turn cut from the bar, bent around the former, the nail holes punched, the heel corks bent up, and the shoes discharged.

*Claim.*—In combination with a series of movable formers or pattern blocks, the swinging die-block  $e^2$ , when arranged to operate as set forth.

Also, in combination with the swinging die-block, the auxiliary presser rolls  $d^2$ , actuated by the levers which carry the rolls V, substantially as described.

Also, in combination with revolving formers and the bending rolls, the calk benders, operating substantially as set forth.

Also, in combination with the movable formers and bending mechanism, the dischargers  $q^2$ , operated substantially as described.

Also, the arrangement of the formers around the periphery of a wheel grooved centrally of its periphery, as and for the purpose substantially as described.

Also, the sliding feed-carriage with its spring pawls, when arranged in connection with the cutting and bending mechanism, and when operated by the cam on the main shaft, substantially as described.

Also, in combination with the bending mechanism, the gripping jaw  $q$ , for holding the bar while being cut, and the tooth  $r$ , for holding the blank at its center to prevent it from sliding endwise as the bending rolls begin to act, substantially as set forth.

Also, the cutting blade  $o$  when arranged to operate in combination with the feeding mechanism, movable former blocks, and bending rolls, and when operated by the cam on the main shaft, substantially as described.

Also, in a horseshoe machine, the described arrangement of the feeding, cutting, gripping, and bending mechanism, to be all operated directly from the main driving shaft, substantially as described.

Also, the arrangement around the periphery of a wheel of a series of formers or pattern blocks, operating in succession, with the described bending mechanism, substantially as set forth.

**67,911.**—LLOYD ROBERTS, West Haverford, Pa.—*Truss.*—August 20, 1867.—The pad is adjusted on the bar by a set screw that engages in a socket in the pad.

*Claim.*—The pad B, rendered adjustable to or from the bar A, substantially as and for the purpose described.

**67,912.**—AUGUST ROOS, New York, N. Y.—*Apparatus for Rectifying Spirits.*—August 20, 1867.—The vapors pass from the column through a pipe into the double case or space between the cylinders. The space is divided by segmental rings placed alternately to check and more thoroughly condense the vapors. The temperature is maintained by the water bath so that spirituous vapors alone will pass by the pipe into the refrigerator.

*Claim.*—The rectifying condenser formed of the case  $h$  i, with the segmental rings placed alternately to arrest the vapors as they pass up through said condenser, as and for the purposes set forth.

**67,913.**—T. J. and R. L. ROOT, Andover, Ohio, assignors to THOMAS J. ROOT, same place.—*Trip Hammer.*—August 20, 1867.—The hammer is pivoted to a vertically moving head having such connections to the treadle that a downward movement of the latter causes a simultaneous, general, and oscillatory descent of the hammer.

*Claim.*—First, the vibrating head E, grooved vertical shaft  $F'$  and vibrating rod G, in combination with the rock head B and treadle  $F^2$ , as and for the purpose specified.

Second, the lever T constructed as described, grooved shaft  $F'$ , toothed plate  $U'$ , recess in head A as described, and plate  $T^3$ , in combination with the vibrating rod G, ball  $H'$ , set screw  $I'$ , and bearing S, arranged so as to operate as and for the purpose specified.

Third, the ball  $H^2$  and set screw  $J'$ , (applied to the rod H,) bearings R, and treadle  $F^2$ , in combina-

tion with the subject-matter of the second claim, as herein stated.

Fourth, the combination of the adjustable bearings R R and S S, vibrating rod G, and rod H, with the rock shaft O and treadle  $F^2$  so as to operate substantially in the manner and for the purpose specified.

**67,914.**—ISAAC S. and HENRY B. RUSSELL, New Market, Md.—*Harvester.*—August 20, 1867.—The outer extremity of the hub is fixed to an introverted shaft that rotates with the wheel and has its motions and is supported in an elongated hollow socket. The socket is held in position and moves on two pins as on a pivot with a motion coincident with that of the machine.

*Claim.*—First, the vibrating support H, substantially as and for the purpose described.

Second, the wheel A, having its axle operating in the pivoted socket C, substantially as and for the purpose described.

**67,915.**—JOHN W. SANFORD, Bath, N. Y.—*Combined Gate and Fence.*—August 20, 1867.—The frame of the gate is hung to the upper bar and consists of two other bars and pickets, all pivoted so as to fold up on the upward and backward swing of the top bar, which is suspended on a horizontal pivot and counterbalanced for that purpose.

*Claim.*—The manner of putting together these double gates and posts with fence in combination, with sills to be set in the ground.

**67,916.**—JOHN W. SANFORD, Bath, N. Y.—*Broom Head.*—August 20, 1867.—The screw rod has a cross bar and a conoidal block of wood within the head and the handle has a conical clip of metal at the end, to embrace the end of the head, when the screw rod engages the handle.

*Claim.*—The combination of the rod  $c$ , screwed into the handle, the adjustable nut  $e$ , cap piece  $d$ , and band  $h$ , fastened to the rod  $c$ , all as and for the purposes specified.

**67,917.**—GEORGE W. SAWIN, Nashua, N. H.—*Horse Hoc.*—August 20, 1867.—The frame is extensible at the rear end, its side beams being pivoted in front; and it has a detachable rake hinged to the rear.

*Claim.*—First, the combination as well as the arrangement of the rake I with the blades D D' A and A', made substantially as described and for the purpose set forth.

Second, the combination and arrangement of the gathering in blades A A' with the blades D and D', made substantially as described and for the purpose set forth.

Third, the combination of the movable blade B with the adjustable bars C and C', made substantially as described and for the purpose set forth.

**67,918.**—JACOB B. SHANNON, Philadelphia, Pa.—*Speaking Tube.*—August 20, 1867.—The plate which closes the central opening of the mouth-piece is hinged at bottom and so lightly supported as to fall with a breath of air from the pipe.

*Claim.*—The flap or plate D hinged to and arranged on the corner of the mouth-piece A in respect to the opening  $d$  in the said cover, as and for the purpose set forth.

**67,919.**—CHARLES G. SMITH, North Bridgewater, Mass., assignor to himself and ALEXANDER TURNER, same place.—*Reflector for Windows.*—August 20, 1867.—The box is in form of the truncated sector of a cylinder, and its two plane, inclined surfaces have reflecting mirrors. The supporting bars project perpendicularly from the sill and are adjustable vertically. The box has oscillatory adjustment in a horizontal plane.

*Claim.*—The duplex adjustable reflector substantially as described, that is, as composed of the box A, or its equivalent, the two mirrors B B, the arm C, and its clamp screw  $b$ .

Also, the combination of the duplex reflector, made as described, (viz: of the box A, its mirrors B B, arm C, and clamp screw  $b$ ,) with the supporter composed of the screw F and  $a$ , bar or bars D E applied together and to the arm C, substantially as specified.



**67,920.**—BENJAMIN F. SPARROW, Boston, Mass.—*Metallic Tip*.—August 20, 1867.—The metallic tip is extended to protect the sole, to which it is serewed.

*Claim.*—The metallic upper and sole tips or guard, as made without any central flange, and with holes through it to receive screws, and arranged so that such screws may enter the outer edge of the sole when covered by such tips.

**67,921.**—LEWIS H. SPEAR, Braintree, Vt.—*Preserving Animal and Vegetable Substances*.—August 20, 1867; antedated August 15, 1867.—Explained by the claims.

*Claim.*—First, subjecting animal or vegetable matter to the action of a solution of a mixture of borax (biborate of soda) or any other compound of boracic acid, in connection with sulphite of soda or any other compound of sulphuric acid, in the manner substantially as herein described, for the purpose specified.

Second, subjecting animal or vegetable matter to the action of a solution of sulphite of soda or any other compound of sulphurous acid, in the manner substantially as herein described, for the purpose herein specified.

Third, subjecting animal or vegetable matter to the action of a solution of borax (biborate of soda) or any other compound of boracic acid, in the manner substantially as herein described, for the purpose herein specified.

Fourth, subjecting animal or vegetable matter to the action of a solution of boracic acid, in the manner substantially as herein described, for the purpose specified.

**67,922.**—E. SPENCER, Lambertville, N. J.—*Pencil Sharpener*.—August 20, 1867.—The points are filled in with plaster or metal to form a rest for the pencil.

*Claim.*—First, the arrangement of the gripe *d* for preventing the points of the pencil sharpener from spreading, substantially as herein described.

Second, the filling *e* in the points of the pencil sharpener, for the purposes herein specified.

**67,923.**—CHARLES SPOFFORD and CHARLES H. HERSEY, Boston, Mass.—*Cotton Gin*.—August 20, 1867.—The clearers are serrated fixed plates, and the upper one is braced to the stripper. The feed rolls are made with spiral courses of radial wires, or with gauze disks, to support the rubber, which is vulcanized after attachment. The bearing of the breast beam upon the rolls is adjusted by set screws.

*Claim.*—First, the clearers *U V*, substantially as and for the purpose described.

Second, the yoke *Q*, or its equivalent, for connecting the clearers *U V* and the stripper *T*, to secure their simultaneous action, substantially as set forth.

Third, bracing the stripper *T* to the upper clearer *U* to stiffen and retain the former in place, substantially as and for the purpose specified.

Fourth, the breast beam *L* with its groove *f* and apron *M*, in combination with the grating *N*, consisting of the slotted bar *O*, and pins *7*, operated by screws *h*, or otherwise, for regulating the pressure of the breast beam against the periphery of the upper feed roll *H*, substantially as described.

Fifth, the upper feed roll *H* constructed substantially as described and for the purpose set forth.

Sixth, a feed roll *H*, in which spiral metallic strips *y* are operated as and for the purpose set forth.

**67,924.**—RICHARD T. SPRAGUE, Boston, Mass.—*Liquoring Sugar in Centrifugal Machines*.—August 20, 1867.—The liquor is introduced to the tank through a strainer, and is delivered by a force pump, each stroke of which measures a uniform quantity.

*Claim.*—The use, with a centrifugal sugar bleaching machine, of a portable liquoring tank, constructed and operating as described.

**67,925.**—F. P. STIKER, Buffalo, N. Y.—*Faucet*.—August 20, 1867.—The beer is forced out of the faucet by a segment, which turns in a groove within it when closing the plug, thereby foaming the beer.

*Claim.*—The plug *B*, in combination with the movable segment *G* and groove *E*, operating substantially as described and for the purpose herein set forth.

**67,926.**—LOUIS STROEVER, Philadelphia, Pa.—*Medicine*.—August 20, 1867.—Composed of Jamaica rum, 1 quart; Green Mountain tea,  $\frac{1}{2}$  ounce; cream of tartar, 5 ounces; quinine, 4 grains; and elixir of vitriol, 2 drachms.

*Claim.*—A medicine for the cure of fevers, when the said medicine is made of the ingredients herein described and about in the proportions specified.

**67,927.**—T. J. SULLIVAN, Rochester, N. Y.—*Permutation Lock for Doors, &c.*—August 20, 1867.—The knob shaft passes through the lock plate and is secured by a collar within the plate. The collar has notches, which engage projections on a ring connected to the shaft and held to the collar by a nut. The combination disks are moved by this collar. The disks are on a hollow bearing attached to a plate at the rear side of the lock. The combination is found by introducing a pin through a hole in the disks from the rear. The dog is connected to a vertically-sliding plate, and traverses a longitudinal slot in the bolt lever, by which the lock bolt is withdrawn to free the door bolts, a notch in the lever engaging a pin on the hub to operate the bolt. The door bolts are operated by a somewhat similar device.

*Claim.*—First, connecting the shaft *B* with the head *C* by the collar *D* and jaw nut *E*, as herein set forth.

Second, connecting the combination wheels to the frame *G*, which is secured within the lock, in the manner set forth, so as to avoid extending the shaft through it or removing them with the back plate, as specified.

Third, combining the lever *H* with the dog plate *K* by the dog *q* in such a manner that while they are bound together each is allowed a free action, as set forth.

Fourth, the combination of the slide *L* with the dog plate *k* and lever *H*, as and for the purpose specified.

Fifth, the combination of the cam disk *J* with the lever *H*, slide *L*, and dog plate *k*, as specified.

Sixth, disconnecting the heavy bolt work of a safe door from its operating shaft when the door is locked, as specified.

Seventh, the combination of the bent arm *B* with the lever *H'* and the bolt of the lock, for the purpose set forth.

Eighth, the segment *Q*, in combination with the dog *q'*, the wheels *F' F' F'*, as and for the purpose set forth.

**67,928.**—JAMES D. SUMNER, Lexington, Mass.—*Water Meter*.—August 20, 1867.—The rotating disk is hung eccentrically in the cylinder, which has a shallow, lunate cavity at its upper side, concentric with the disk, to give longer packing surface to the pivoted wings, which bear against the side all around.

*Claim.*—The combination of the disk *B*, flanged or tongued at or near its periphery and carrying the vanes or floats *e*, with the case *A*, recessed and grooved in its interior, substantially in the manner and for the purposes herein set forth.

**67,929.**—DANIEL W. SWARTZ, Lewisburg, Pa.—*Dumping Platform for Harvesters*.—August 20, 1867.—The supporting platform behind the cutter bar has an intermittent rotating movement on its upper surface in the opposite direction to the motion of the harvester. It has rake teeth that carry the grain and deposit it in bunches on the ground.

*Claim.*—A dumping platform *B*, revolving intermittently backward from the motion of the harvester and provided with one or more rows of teeth *C C*, substantially as and for the purpose herein specified.

Also, the cog and ratchet wheel *H*, provided with the holes *h h* and groove *i*, in combination with the spring pawl *I* and operating lever *L*, substantially as and for the purpose herein described.

Also, the combination of the revolving platform *B*, ratchet wheel *H*, spring pawl *I*, and lever *L*, substantially as and for the purpose herein specified.

**67,930.**—CHARLES B. TUCKER and L. S. BABBITT, Chicago, Ill., assignors to L. S. BABBITT.—*Bed Bottom*.—August 20, 1867.—The pivoted arms have spring connections and rollers which bear upward beneath the longitudinal slats.

*Claim.*—The arrangement of the rollers *D D*, in



combination with levers F F, rods E E, and springs C C C, constructed to operate under slats I, substantially as and for the purpose set forth.

**67,931.**—JOHN C. UNDERWOOD and PETER JOHNSON, Richmond, Ind., assignors to themselves, CHAS. A. VAILE, and DAVID NORDYKE, same place.—*Device for Soldering Cans.*—August 20, 1867.—The springs are connected by hinges to the bands that press against the inner surface of the can, adjusting themselves to the size required. Wheels distribute rosin from the box to the joints to be soldered.

*Claim.*—First, the springs *a*, in combination with the expander shaft D', bands E, and hinges, substantially as and for the purpose specified.

Second, the frame F, disk *d*, and adjustable spring guide *k*, constructed and arranged as described for centering the can, substantially as herein set forth.

Third, the combination and arrangement of the expander D, frame P, and rosin box G', substantially as described for the purpose specified.

Fourth, the compartments G', and wheels H, with the pan G, for distributing the rosin, constructed and arranged to operate substantially as and for the purpose set forth.

**67,932.**—JAMES C. WALKER, Waco Village, Texas.—*Coffee Pot.*—August 20, 1867.—The steam is introduced from a boiler by a tube into the vessel containing the coffee. The essence of the coffee is extracted by the joint action of the hot water and steam.

*Claim.*—The coffee pot above described, consisting of the boiler A, tube D, perforated at *e e e*, and box E, having the perforated bottom E'', and tube G, all arranged and combined in connection with the pot B, substantially as and for the purpose described.

**67,933.**—STEPHEN S. WHALEY, Tidoufe, Pa.—*Fruit Ladder.*—August 20, 1867.—The ladder is supported on a trundling frame that has a foot board and shoulder straps attached to support the picker.

*Claim.*—First, the arrangement of the ladder upon the trundling frame in combination with the platform A, arranged so as to be adjustable and fixed thereon, substantially as herein set forth.

Second, the receptacle formed by combination of the trundling frame B and platform A, in combination with an adjustable ladder, substantially as set forth.

Third, the harness *c*, combined with a ladder so as to support the person thereon, substantially as set forth.

**67,934.**—H. F. WILLSON, Fort Wayne, Ind., assignor to himself and GEORGE ESMOND, same place.—*Breast Strap Shield.*—August 20, 1867.—The rotating hook permits attachment of the ring when standing in one position, but when turned half around the flange prevents accidental detachment. The breast strap passes around the roller.

*Claim.*—The revolving hook A, in combination with the flange B, the same being constructed in the manner and for the purpose substantially as described.

Also, hook A, flange B, frame C, and roller D, the whole being combined, arranged and constructed in the manner and for the purpose substantially as described.

**67,935.**—CHARLES O. WINEGAR, Drytown, Cal.—*Steam Generator.*—August 20, 1867.—Each series of tubes connects with independent water chambers at the end to decrease the danger from explosions.

*Claim.*—Connecting each series of tubes to separate and independent chests at both ends so that each series of tubes can expand and contract without straining the others or being strained themselves.

Also, arranging the tubes in each tie so as to form a connection between all the chests and all the tubes used, substantially as described.

**67,936.**—J. H. WOOSTER, Strykersville, N. Y., assignor to himself and ROBERT DUNBAR, Buffalo, N. Y.—*Steam Engine Governor.*—August 20, 1867.—The rods that bear the governor balls radiate from the driving shaft and connect with the eccentric that operates the cut-off valve. The eccentric is loosely arranged on the driving shaft in connection with the

governor which holds the eccentric, changing and controlling its lead.

*Claim.*—First, the arrangement of the governor balls A, sliding on rods B B, radiating from the driving shaft of a steam engine and held by coiled springs C, their arms *h'* connecting with the eccentric which operates the cut-off valve in such manner that the outward movement of the balls will be communicated to the eccentric and thereby control the cut-off, substantially as described.

Second, the connection of the rod *h'* to the eccentrics, consisting of the hub *d'*, collar G, with crank-like extensions *h*, connected to the hub *d'* by the set screw *g'*, constructed and arranged as set forth.

**67,937.**—WILLIAM C. ABBE, Petroleum Centre, Pa.—*Pipe Wrench.*—August 20, 1867.—The two-jointed, segmental jaws are connected to a single hand lever and open to receive between their concave, serrated edges pipes of various sizes, on which they close by depressing the lever.

*Claim.*—The segmental jaws B C, in combination with the lever A, constructed and operating substantially as and for the purpose described.

**67,938.**—E. G. F. ARNDT and C. E. L. MOEBIUS, New York, N. Y.—*Combined Lock and Knob Latch.*—August 20, 1867.—Improvement on the patent of E. G. F. Arndt and A. Hühne, November 11, 1862. The spring bolt is so arranged as to operate as a common lock bolt by use of a key, and can be locked to render the key inoperative by a plate moved from the inside.

*Claim.*—First, the square or polygonal hub D, when arranged between the arms *c* and *d* of the bolt, in the recess *e*, which is narrow at the ends, substantially as and for the purpose herein shown and described.

Second, the stem H, when made partly square (or polygonal) and partly round, in combination with the guard plate M and spring O, all made and operating substantially as and for the purpose shown and described.

Third, the vibrating tumblers E and F, when pivoted together and arranged substantially as herein shown and described, in combination with the bolt C, spring G, and square or polygonal hub D, all made and operating substantially as herein shown and described.

Fourth, the guard plates L and M, in combination with each other and with the stem H and pin K, all made and operating substantially as and for the purpose herein shown and described.

Fifth, a spring bolt lock which is so constructed that it can be operated by a stem H and key J, or by the latter and a night key N, or by all three, or by the key J only, substantially as and for the purpose herein shown and described.

**67,939.**—JOHN BAUMEISTER, Detroit, Mich.—*Boiler.*—August 20, 1867.—The strainers are arranged to fit on the boiler and on each other. Within each strainer is a truncated, conical, bottomless basket, formed of perforated metallic plates.

*Claim.*—The strainer C, constructed and arranged substantially as described, in combination with the vessel B and the boiler A, for the purpose set forth.

**67,940.**—LEMUEL BECKELSHYMER, Leavenworth, Kan., assignor to himself and GRANDERSON T. DEERING.—*Harrow.*—August 20, 1867.—The harrows are suspended from a frame mounted on wheels that give a reciprocating transverse movement to the harrows through the gearing by which they are connected.

*Claim.*—First, the harrow shoes K<sup>1</sup> or K, to which the teeth *k'* are attached, in combination with the connecting bars L, levers M, connecting bars N, and crank wheel O, by which motion is communicated from the gearing to the said shoes or shoe, substantially as herein shown and described.

Second, the combination of the lever G with the stationary frame C, or tongue D, and with the movable frame F, substantially in the manner herein shown and described and for the purpose set forth.

**67,941.**—JEAN BERNARD BIRON, Carpentras, France.—*Disintegrating and Bleaching Wood and other Materials to form Paper Pulp.*—August 20, 1867.—The wood is divided into cubes of two or more inches,



and macerated in lime water until sufficiently saturated to sink. It is then crushed beneath a rolling stone revolving in a trough containing lime water, then drained and washed. It is then treated in a vat with a solution of sulphuret of potassium or pentasulphuret of lime. After thorough impregnation a solution of hydro-chlorate of alumina is added. The acid combines with the alkaline base, and frees the sulphur to combine with the hydrogen of the coloring matter in the wood, and passes off in the form of sulphureted hydrogen.

*Claim.*—The employment as a bleaching agent of alkaline sulphurets, in the manner and for the purposes substantially as above set forth and described.

**67,942.**—FRANK S. BISSELL, Pittsburg, Pa.—*Doors for Stoves and Furnaces.*—August 20, 1867.—The doors are closed by springs for safety, in case of the stove being upset.

*Claim.*—A stove or furnace door, which is closed by springs, substantially in the manner herein shown and described and for the purposes set forth.

**67,943.**—SAMUEL BOONE, Le Gros, Ind.—*Anchoring Stationary Machinery.*—August 20, 1867.—Single blocks of wood are sunk in the ground at right angles to the direction of the draft, and of length and face in proportion to the force to be resisted. An iron rod is run through each anchor, and is connected across and above one sill of the stationary power and through the other sill.

*Claim.*—The anchors A B, secured to the power H I by means of the swiveled screw rods A C and B F, all constructed as described, whereby the force of the draft is resisted, substantially as described for the purposes specified.

**67,944.**—L. H. BOWLUS, Knoxville, Tenn.—*Fence.*—August 20, 1867.—The lower ends of the center posts are hinged to the short post, and embraced by hooks pivoted to the top of the short post. The panels are connected by sliding bolts. The fence is let down in the winter to prevent the collection of drifts.

*Claim.*—First, pivoting or hinging the lower end of the central cross-bar  $b^3$  to the lower part of the short post A, substantially as herein shown and described and for the purpose set forth.

Second, securing the panels B when in an erect position by hooks or catches C, pivoted to the upper parts of the posts A, and taking hold of the central cross bars  $b^3$  of the said panels, substantially as herein shown and described and for the purpose set forth.

**67,945.**—THOMAS S. BOWMAN, St. Louis, Mo.—*Ventilating Attachment for Stoves.*—August 20, 1867.—The stove pipe is surrounded with an air drum, the bottom of which is connected with a base containing water that is evaporated and discharged into the room.

*Claim.*—The base B and the drum C, arranged and operating as herein shown and described, in combination with a stove and stovepipe, substantially as and for the purposes set forth.

**67,946.**—HUGH BRADY, Factoryville, N. Y.—*Axle Box.*—August 20, 1867.—The box turns on anti-friction rollers, pivoted to annular bearings, and revolving on the spindle. The sets of rollers are separated and kept in position longitudinally by rings secured to the box by radial screws.

*Claim.*—The friction rollers  $e e$ , hung in the disk bearings  $g g$ , in combination with the partitions  $d d$ , enclosed in the axle box  $a$ , constructed, arranged, and operating substantially as and for the purpose herein described.

**67,947.**—WILLIAM R. BREE, Pottsville, Pa.—*Lining for Oil Barrels.*—August 20, 1867.—Glue 1 lb., dissolved in water; molasses, 1 pint; lime water of thickness of milk, 1 quart.

*Claim.*—The composition above described, when made and used substantially as and for the purpose specified.

**67,948.**—PARCEL BRINKERHOFF, Chillieothe, Mo.—*Measure for Liquids.*—August 20, 1867.—The semi-cylindrical measuring vessel has radial divisions, sep-

arating it into segments of cylinders of certain graduated capacities. The tube may be turned so as to connect either of these segments with the discharge spout, the index finger showing the position required. The spout has a turning head with the radial nozzles of various sizes.

*Claim.*—First, the combination of the vessel A with the cylinder B, tube C, groove  $b$  and apertures  $d l U$ , all arranged and operating substantially as described.

Second, the nozzle  $f$ , combined with the cylinder  $g$  and the cylinder B, substantially as described.

Third, the lever J, stop guide  $m$ , in combination with vessel A and supply pipe G, all arranged and operating substantially as and for the purpose set forth.

**67,949.**—P. F. BRITTAIN, Geneseo, Ill.—*Corn Cultivator.*—August 20, 1867.—The plow beams have a double action swivel connection to the pendent bars in front, and are adjusted laterally and vertically by the supporting chain and lever attached. The marker is adjusted by a lever at the rear end of the frame.

*Claim.*—The marking device, consisting of the bars  $h h$ , beam G, and standards H, in combination with the frame A of a corn plow, substantially as set forth.

**67,950.**—HARVEY BROWN, New York, N. Y.—*Clothes Dryer.*—August 20, 1867.—The hinged sides and top of the box are opened as required, and movable bars fitting in their sockets are braced by bearers beneath. Heated air is conveyed thereto as required.

*Claim.*—The combination of the compartment A, removable bars C and cleats D, substantially as described and for the purpose specified.

**67,951.**—W. BUCKLEY, New York, N. Y.—*Base Ball Table.*—August 20, 1867.—The ball follows a track from the pitcher stand to the bat, which, after drawing back, is oscillated by the spring to strike the ball during its passage. The catcher forks are disposed on the table to arrest the ball. This arrest puts the batter out. The runs are made by raising one end of the tracks on which the ball stands, and causing its passage from one base to another. These tracks are raised by keys. The pitcher has a cue to direct the course of the ball.

*Claim.*—First, the base-ball table, constructed as described, consisting of the table A, bases B C D E, bat F, lever G, runners K, keys M N O P S, fielders T, movable line U, and balls W V, all operating as described, for the purpose specified.

Second, the pivoted runners K K U, operated by levers and keys, substantially as and for the purpose shown and described.

Third, the V-shaped catchers T T, constructed substantially as and for the purpose specified.

**67,952.**—JOHN BUTTS, Evansville, Wis.—*Attachment for Preventing Hogs from Rooting.*—August 20, 1867.—The roller is attached to the front of the ring, to increase the efficiency of the latter.

*Claim.*—The roller attachment A, substantially as and for the purpose described.

**67,953.**—E. C. CLEVELAND, Worcester, Mass.—*Centrifugal Machine or Hydro Extractor.*—August 20, 1867.—The basket is so hung as to rotate at great speed, and to have a limited side movement. Weights upon the basket shaft are so encased as to counterbalance the material in the basket.

*Claim.*—First, the hydro extractors, the basket when hung for operation, substantially as and for the purpose described.

Second, in combination with the above, the counter weights applied to the basket shaft, substantially as and for the purpose specified.

**67,954.**—JAMES B. CLEVELAND, Haekensack, N. J.—*Preparing Plates for Springs.*—August 20, 1867.—The dies reduce the heated plates to proper thickness previous to rolling, acting upon one end at a time.

*Claim.*—The combination of the dies C C<sup>1</sup>, blocks G, fixed dies  $d d'$  in the block E, slotted lever D, wheel C, and roller A A, as herein set forth for the purpose specified.



**67,955.**—E. H. CLINTON, W. PRATHER, and H. O. HUTCHINSON, Iowa City, Iowa. — *Corn and Cane Harvester.*—August 20, 1867.—The circular saws are rotated by endless bands in connection with gearing from the driving wheels. The arms throw the stalks upon the discharging frames, which, actuated by levers, deliver them in bunches upon the ground.

*Claim.*—First, the discharging frames I I, applied to the frame A, and actuated through the medium of lever J, substantially as described.

Second, the combination of the circular saws or cutters H, arms N N, connected with the shafts M, provided with the arms u, at their upper ends, and discharging frames I I, all arranged in connection with the mounted frame A, to operate substantially in the manner and for the purpose set forth.

**67,956.**—FRANCIS J. COATES, Cincinnati, Ohio. — *Chair.*—August 20, 1867. — The seat is hinged on the leg frame, and has a quadrant rack whose teeth engage a spur upon a spring lever.

*Claim.*—The combination and arrangement of the seat F, pivoted centrally to the sides C, and having upon its under side the quadrant-shaped sector I, provided with teeth a upon its circular edge, and the spring lever J, having the prong b, and hinged to the forward rail D, substantially as described for the purpose specified.

**67,957.**—EDWARD R. COLE, Pawtucket, R. I. — *Crank Connection.* — August 20, 1867. — The crank pin hangs in a box that slides in a groove on the shaft, having a reciprocating rectilinear motion. The sides of the groove are susceptible of adjustment laterally to compensate for wear.

*Claim.* — First, in combination with the sliding box E and grooved guide of the shaft A, the adjustable sides for the groove or way of the sliding box, substantially as and for the purpose specified.

Second, the adjustable sides for the groove or way of the sliding box, substantially as and for the purpose described.

**67,958.** — WILLIAM T. COLE, New York, N. Y., assignor to JACOB F. HUNTER and PETER P. KELLER, same place. — *Die for Cutting Threads on Tubes.*—August 20, 1867.—The dies are jointed to the base plate; they are drawn together by the lever and held by the spring clamp.

*Claim.*—First, the combination of the base plate A, pivoted die plate B, spring C, lever H, and link I, arranged substantially as described.

Second, the combination with the above of the clutch C, applied and operating in the manner and for the purpose specified.

**67,959.**—ISAAC N. CONNELL, Spence's Station, Ohio. — *Animal Trap.*—August 20, 1867.—When either end of the trigger plate is depressed the bolt is operated to release the corresponding end of the pivoted platform, depositing the rat in the box beneath.

*Claim.*—First, the combination and arrangement of the trigger plate K, arm M, supporting bar or bolt I, with each other and with the pivoted platform H and box A of the trap, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the spring N with the pivoted platform H and bar or bolt I, substantially as herein shown and described and for the purpose set forth.

Third, the removable pivoted partition O and weight P, arranged in relation with the trigger plate K, pivoted platform H, bar I, and trigger L, as herein set forth for the purpose specified.

**67,960.**—GURNSEY CRANDELL, Rhinebeck, N. Y. — *Churning Machine.*—August 20, 1867.—The treadle connects by a rod with the crank shaft that connects by a pitman with the dasher and operates the churn.

*Claim.*—The combination of the sliding bar E, connecting rod or rods F, crank shaft G, fly wheel H, and operating rod I with each other and with the frame A, substantially as herein shown and described and for the purpose set forth.

**67,961.**—JAMES G. CUMMINGS, Columbus, Miss. — *Cotton Press.*—August 20, 1867.—The cotton is confined in a long rectangular chest that revolves on a vertical axis engaging a screw that drives the follower.

*Claim.*—First, the bevel wheel C, provided with the projecting rim forming an annular track resting on rollers h h, and having the hub i for the passage of the screw F, step K, which bears the bevel wheel C, and is secured to the frame C and trunk A, when all are constructed and arranged as herein set forth for the purpose specified.

Second, the shifting head block B, in combination with the rollers d d, the rail track e e, and the trunk A, arranged and operating substantially as and for the purposes herein described.

**67,962.**—JOHN DAVIS, Allegheny City, Pa. — *Car Brake.*—August 20, 1867.—The sliding draw head to which the horses are hitched acts through an adjustable cord to unbrake the wheels. On the slackening up of the horses the springs draw the brakes to the wheels.

*Claim.*—First, the sliding frame o, clevis 13, and pawl 11, when used in combination with the hand lever 14, provided with ratchet 10, chain u, and shaft g, provided with arms p 7 and 8, constructed, arranged, combined, and operating in the manner substantially as herein described.

Second, the shaft g, provided with arms 7 8 and p, when used in combination with the springs f and e, rods t and m, and brakes j, constructed, arranged, combined, and operating in the manner substantially as herein described and for the purpose set forth.

**67,963.**—THOMAS R. DRUMMOND, Hartford, Conn. — *Slate Cutter.*—August 20, 1867.—The knife frame is suspended by elliptic springs from side blocks that traverse the guide rods and bring the knives in contact with the slate that lies on the elastic block beneath.

*Claim.*—First, the four-sided box knife F, the elastic block G, and the cushion within the cutters on the block D, arranged and operating substantially as described and for the purposes set forth.

Second, in combination with the cutter box knife F the springs a a, or their equivalents, and the use of springs under the cushion of the block D, substantially as and for the purposes set forth.

**67,964.**—C. L. EGGERT, Lawrence, Kansas. — *Churn.*—August 20, 1867.—The hand crank connecting by a train of gearing with the opposing rotating dashers forces the two currents of cream against each other.

*Claim.*—The combination and arrangement of the gear wheels G H I and shafts C D E with each other, with the dashers J K and with the frame E and body A of the churn, in combination with the double dashers J and K, constructed, arranged, and operated substantially as herein shown and described.

**67,965.**—GEORGE ELMES, Chestertown, N. Y., assignor to himself and F. B. WELLS, Canaan, N. H. — *Sewing Machine.*—August 20, 1867.—The motive wheel has an inclined rib which operates a spring rod carrying a diagonally slotted plate, which by its reciprocation operates the needle.

*Claim.*—The reciprocating rod A provided with the incline e on the head a, the pin d, and the spiral spring g, in combination with the driving wheel C and presser foot of a wax thread sewing machine, arranged and operating substantially as and for the purposes herein shown and described.

**67,966.**—W. M. ELROD, St. Louis, Mo., assignor to himself and GEORGE L. WILLIAMS, same place. — *Oscillating Piston Engine.*—August 20, 1867.—The oscillating steam valve is in the hub of the sectoral pistons, through which the steam is received into and exhausted from the cylinder. An oscillating lever is pivoted to the disk plate and has a pin on its end that works in the slot of a lever attached to the valve stem. The oscillating lever strikes studs as the valve oscillates to cause the reverse action of the piston.

*Claim.*—First, the oscillating piston C, the hollow shaft E, the oscillating valve D with its hollow valve stem F, combined and arranged substantially as shown and described, for the purpose of forming an oscillating piston steam engine, as set forth.

Second, the lever m, the disk J, the arm h, the lever e, and the pins or studs i i and k k, arranged substan-



tially as described, for the purpose of reversing the motion of the piston, as set forth.

Third, the chamber G, on the side of the cylinder, substantially as shown and described.

**67,967.**—G. W. FINK, Pleasant Plains, Ill.—*Trace Fastener*.—August 20, 1867.—The prolongation of the trace presses the eccentric groove of the cock-eye and holds the loop in which the trace tongue is arranged against the neck of the button attached to the ferrule.

*Claim.*—First, the cock eye or button C, furnished with the eccentric groove *e*, substantially as described.

Second, the metallic loop B, constructed to carry the prolongation of the trace A, with the eye *b*, fitted to receive the button C, substantially as described.

Third, the combination of the trace tongue A with the eccentric groove of the cock eye, substantially as described.

**67,968.**—WM. FINN, Poughkeepsie, N. Y.—*Carriage Prop.*—August 20, 1867.—The standard has a dovetail tenon that fits in the groove in the plate that is secured to the bow. The edges of the covering are clamped by the tenon in the groove.

*Claim.*—The standard C, when provided with a dovetailed wedge-shaped tenon *a*, in combination with the plate B, which has a wedge-shaped dovetailed groove *c* in a circular projection *b*, as set forth.

**67,969.**—CHARLES and GEORGE FISHER, Tecumseh, Mich.—*Apparatus for Soldering Eaves Troughs*.—August 20, 1867.—The beaded edge of the gutter enters a groove in the wooden clamping box, and its other edge is held by catches connected to levers whose free ends are engaged by the ratchet bars.

*Claim.*—First, the construction and arrangement of the right angular clasps D, provided upon the inner end with a flange *b*, and pintle pivoted to the lever *o*, and adjusted by means of the ratchet bars F, substantially as described and for the purpose specified.

Second, the cam washers *n n n*, so as to throw or carry the levers *o o o*, and clasps D D D, out from over the edge of the trough or box A, when the said levers are raised up so that the gutter can be removed, substantially as shown and described and for the purposes set forth.

**67,970.**—JOSEPH FOSTER, Beverly, Mass.—*Fish Flake*.—August 20, 1867.—The flake is adjustable according to the intensity or direction of the sun's rays, and has a screen that is used for a shade, when necessary.

*Claim.*—The arrangement of a sun screen C, in combination with the frame of a fish flake suspended on posts *a a*, and operating substantially as and for the purposes described.

**67,971.**—E. J. FRASER, Erie, Pa.—*Carbureting Apparatus*.—August 20, 1867.—The air is forced into the carbureting chamber by a pump, and is passed over inclined surfaces and through perforated retarding plates when in contact with the vapor of the volatile liquids.

*Claim.*—First, the vessels A and B, the water cylinder C, the plate coil D, and the retarding curtains D', when the same are constructed, arranged, and combined substantially as shown and described for the purposes set forth.

Second, in combination therewith the air pipe G and the space L, substantially as and for the purposes described.

**67,972.**—JOHN FREELAND and DANIEL WARD, New York, N. Y.—*Volute Spring*.—August 20, 1867.—Improvement on his patent March 7, 1865. The metallic strip is slit longitudinally nearly its whole length but closed at both ends instead of being open at one end as in the patent referred to.

*Claim.*—The improved volute spring formed of a single metal plate slit longitudinally nearly its whole length with both ends uncut and the divided parts spread apart in the middle, coiled substantially as herein shown and described.

**67,973.**—M. A. GLYNN, Havana, Cuba.—*Treating Water to Prevent Incrustation in Steam Boilers*.—August 20, 1867.—Explained by the claims.

*Claim.*—First, the process of treating water for steam generators with bark of the rhizophora mangle, in manner and for the purposes substantially as above described.

Second, the process of treating water for steam generators with said bark of the rhizophora mangle in combination with chloride of sodium, or its equivalent, in manner and for the purposes substantially as above described.

**67,974.**—J. H. GODWIN, Scotland Neck, N. C.—*Oiler*.—August 20, 1867.—The sides of the flat can are distended by spiral springs, and when pressed in, the oil is discharged through the nozzle.

*Claim.*—An oil can constructed with a shallow cylindrical body and an inclined nozzle in combination with the spring or springs A, placed within the body of the said oil can, substantially as and for the purpose set forth.

**67,975.**—ALEXANDER GOODHART, Newville, Pa.—*Machine for Cutting and Grinding Corn Fodder*.—August 20, 1867.—The fodder is fed to the rotating cutters by the rollers. After being cut it falls among and is ground by the teeth of the drum and cylinder, and is discharged from the port below.

*Claim.*—The combination and arrangement of the cutters E E and teeth *l l l* upon the vertical drum D, working in an upright cylinder A, provided with teeth *c e*, substantially as and for the purpose specified.

**66,976.**—C. W. GRANT, Iona Island, N. Y.—*Plow*.—August 20, 1867.—The shares, mold boards, landsides, and coulters of a common plow have supplementary transformations and sectional additions by which the plow is turned into a subsoil and trenching plow.

*Claim.*—First, the supplemental share G and land-side F, when used in connection with or applied to an ordinary tillage plow, substantially in the manner as and for the purpose set forth.

Second, the supplemental or auxiliary share K applied to the share and mold board, substantially as and for the purpose specified.

Third, the two coulters H H' applied to the beam and used in connection with the supplemental share G and landside F, substantially as and for the purpose set forth.

Fourth, the supplemental strips L for the mold board C, when used in combination with the supplemental share and land side, substantially as and for the purpose specified.

**67,977.**—JAMES GRIMES, Portsmouth, Ohio.—*Top of Cooking Stoves*.—August 20, 1867.—The enlarged rim of the top plate is used to allow room in its connections for the expansion and contraction of the side plates.

*Claim.*—The rim B, constructed in one or more pieces, secured to the lugs *b b* of the plate A by means of screw bolts passing through the lugs, said holes being enlarged to admit of the expansion and contraction of the plate A, independently of the rim B, as herein shown and described.

**66,978.**—MELANCTHON HANFORD, Boston, Mass.—*Rotary Engine*.—August 20, 1867.—The steam bearing and propelling surface of the pistons is increased by projections thereon that mesh into recesses in the other piston. The projections partially rotate the pistons while in contact. The pistons are further connected by a quadrangular series of sectional gears upon them.

*Claim.*—The herein-described arrangement of the smaller piston B' and large piston B, provided with projections *f*, as and for the purposes set forth.

**67,979.**—C. C. HARE, Louisville, Ky.—*Sad Iron*.—August 20, 1867.—Explained by the claims and illustration.

*Claim.*—First, the handle B, provided with the curved shank C and pivoted brace D, in combination with the curved socket E upon the iron A, substantially as described for the purpose specified.

Second, the iron A and handle B, fitted together by means of the shank C, upon the latter, fitting into the socket E of the former on the shank C upon the former fitting into the socket E of the latter, and re-



tained in position or released by means of the pivoted brace D, substantially as described for the purpose specified.

**67,980.**—GEORGE W. HAVERMALE, La Harpe, Ill.—*Washing Machine*.—August 20, 1867.—The hand crank projects the beater against the vibrating press board behind.

*Claim.*—The combination and arrangement of the crank shaft F, gear wheel H, pinion I, upon the shaft J, and the balance wheel K, and press board B, and beater D, as herein set forth for the purpose specified.

**67,981.**—DAVID H. HOUSTON, Cambria, Wis.—*Photographic Apparatus*.—August 20, 1867.—The case contains a number of sensitive plates, each of which is excluded from the light until the moment of taking the impression and again excluded thereafter; the plate being automatically adjusted in the camera and again returned to the carrying box.

*Claim.*—First, the securing the ground glass F by the S-spring G, movable by means of the lever H, substantially as described.

Second, securing the sensitive plate K in place, when exposed in front of the ground glass F, in the manner and by the means substantially as described.

Third, the grooved and numbered scale carried on the lid of the camera, substantially as described.

Fourth, the employment of orange or yellow-colored glass, on which to focus the object in view, in manner and for the purposes substantially as described.

Fifth, the construction of the diaphragm D, as herein set forth for the purpose specified.

Sixth, the employment of the keys to secure the sensitive plate in place, in the carrying frame, with or without the slips R, substantially as described.

Seventh, the application of the spring G, for securing the sensitive plate in the camera, substantially as described.

Eighth, the employment of an adjustable spring, at one or both ends of the sensitive plate, whereby the same is secured or loosened at pleasure, in the carrying frame, substantially as described.

Ninth, the application of the spring P and lever O, as attached to the carrying box, substantially as and for the objects desired.

Tenth, the carrying frame B, constructed as described, when combined with the camera A, as and for the purpose specified.

**67,982.**—RICHARD HARVEY HUDSON, Glasgow, Scotland.—*Means to Prevent Ropes Fouling Ships' Propellers*.—August 20, 1867.—The screw shaft has a cutting disk before and one behind the screw, which cut any rope fouling on the screw.

*Claim.*—The disk D, of steel, or steel sheathed, attached to the stern post or rudder post of a vessel, in manner and for the purpose substantially as described.

**67,983.**—E. C. HURLBUT, Middle Haddam, Conn., and E. H. SNOW, Hartford, Conn.—*Boat Detaching Tackle*.—August 20, 1867.—The hights of the rope loops, on which the boat is suspended, are engaged by the block hooks and projections on sectoral plates which are oscillated by a common lever to free the boat.

*Claim.*—The combination and arrangement upon the bottom of the boat, of the standards C' C', to which the hooks F F are pivoted, the points of the latter passing through the perforations in the projecting lips G G', thereby securing the looped ends of the chains c' c', and operated by means of the pivoted rods E, and lever D, pivoted to the standard C, in the center of the boat, substantially as described for the purpose specified.

**67,984.**—JOHN WILLIAM JARBOE, Greenpoint, N. Y.—*Manufacturing Water Pails and other Household Vessels*.—August 20, 1867.—The pail is formed of paper in layers or pulp dipped in alkali, dried, dipped in linseed oil, and hardened by subjecting to a temperature of 125° Fahr. When hardened it is coated with vegetable varnish. The bottom may be metallic. The cylindrical part is shaped and pressed between rollers.

*Claim.*—The manufacture of pails and other articles of household furniture, for holding water, &c.,

made of paper, in the manner substantially as herein shown and described.

**67,985.**—E. JEWELL, Louisville, Ky.—*Watch*.—August 20, 1867.—A ring is sprung on, extending from plate to plate, to prevent ingress of dust to the works.

*Claim.*—The divided spring band D, encircling the works of a watch situated between the enclosing plates, its ends notched to fit over the main spring bar C, substantially as described, for the purpose specified.

**67,986.**—F. B. JOHNSON, De Witt, Iowa.—*Seeder and Cultivator*.—August 20, 1867.—The machine is convertible into a seeder or cultivator. The seed-hopper cut-off is operated by a lever in reach of the driver, and a set screw in the keeper determines the degree of openness to suit quantity of seed desired. The plows are attached to pivoted draw bars which are vertically adjustable and curved downward to form the standards.

*Claim.*—First, operating the slide cut-off F, by a bent lever H, pivoted to a support h', attached to the seed box D, substantially as herein shown and described, and for the purpose set forth.

Second, adjusting the movement of the slide cut-off F, by means of a set or gauge screw I, acting upon the lever H, substantially as herein shown and described, and for the purpose set forth.

Third, the combination of the stirrer K, constructed as described, with the seed box D, caps J, and zigzag or waved wheel L, attached to one of the wheels A, substantially as and for the purpose herein set forth.

Fourth, the combination of the movable inclined seed board E, with the bottom of the seed box D, substantially as herein shown and described and for the purpose set forth.

Fifth, attaching the plow beams m' to each other, and to the clevises N, bolted to the axle B, substantially as herein shown and described and for the purpose set forth.

Sixth, the combination of the bar R, and bent lever U, with the support and guide rod V, and with the plow beams m', substantially as herein shown and described and for the purpose set forth.

Seventh, the combination of the lifting foot lever W with the bent guide lever U, and with the tongue C, of the machine, substantially as herein shown and described and for the purpose set forth.

Eighth, the combination of the lifting and guide bar O with the plow beams m', substantially as herein shown and described and for the purpose set forth.

Ninth, attaching a catch P to the lifting and guide bar O, substantially as herein shown and described and for the purpose set forth.

**67,987.**—JOHN S. KALB, Fostoria, Ohio.—*Wrench and Pruning Shears Combined*.—August 20, 1867.—The jaws are distended by a spiral spring and are adjusted by a stirrup that engages on a curved rack. When used as shears knives are attached to the jaws.

*Claim.*—First, the jaws A B, rack D, in combination with the spring I and stirrup C, combined and operating conjointly, substantially as and for the purpose set forth.

Second, combining the pivoted jaws A B and spring I with one or more movable blades or cutters, arranged as and for the purpose set forth.

**67,988.**—E. G. KELLEY, New York, N. Y.—*Petroleum Still*.—August 20, 1867.—The petroleum is furnished in small jets from a transverse pipe and falls on the upper one of a vertical series of inclined foraminous diaphragms contained in an upwardly-inclined semi-cylindrical extension from the rear of the main part of the retort. Pipes are arranged at different elevations for drawing off the heavier and lighter distillates respectively.

*Claim.*—First, providing a still for petroleum or other hydro-carbon liquids with two pipes F and I for carrying off and separating the products of distillation, substantially as set forth.

Second, the cylindrical boiler B, in combination with the inclined vessel C, in which are inclined diaphragms D, or their equivalents, substantially as and for the purpose herein shown and described.

Third, the above in combination with the inclined pipe F, when the same is arranged as set forth, and



with the pipe I, all made and operating substantially as and for the purpose herein shown and described.

**67,989.**—GEORGE H. KEMPTON, Hudson, N. J.—*Boat-Detaching Tackle.*—August 20, 1867.—The hooked ends are kept together by the suspending chain, and are opened by their weighted arms as the boat touches the water.

*Claim.*—The application of the double-weighted hook to the ring and chains C C D, all combined and operating for the purposes specified.

**67,990.**—D. H. KRANSER and G. N. BOWMAN, Pottsville, Pa.—*Washing Machine.*—August 20, 1867.—The oscillating frame has ribs which enter the spaces between the fixed ribs of the side.

*Claim.*—First, the legs H attached to the sides of the box A, in an inclined position, the longer legs having pivoted in their upper ends the curved oscillating arms B, as herein set forth, for the purpose specified.

Second, the oscillating arms B, constructed as described, the lower convex side having parallel convex slats C, and its bottom edge board D, inclined to form an acute angle with the convex sides, its upper end curved in the arc of a circle in such a manner that in its oscillations it shall completely fill the slot in the cover E, preventing the escape of liquid, as herein set forth, for the purpose specified.

Third, the curved false bottom J, arranged in relation with the inclined board D and convex slats C, upon the oscillating arm B, as herein set forth, for the purpose specified.

**67,991.**—JAMES LEFEBER, Cambridge City, Ind.—*Meat Masher.*—August 20, 1867.—The corrugated roller is hung in a hinged frame over a toothed sliding plate, with which it engages.

*Claim.*—The toothed sliding plate  $\alpha$ , in combination with the corrugated roller C and the hinged frame B, arranged and operating substantially as and for the purpose herein described.

**67,992.**—GEORGE T. LEWIS, Philadelphia, Pa.—*Treating Precipitated Lead to Destroy its Crystalline Character.*—August 20, 1867.—The precipitates of carbonate of lead obtained by bringing carbonic acid in contact with a basic acetate of lead are subjected to friction and pressure when dry.

*Claim.*—Subjecting the precipitates of lead to the combined action of friction and pressure, substantially as and for the purpose herein described.

**67,993.**—B. T. LOOMIS, New York, N. Y.—*Expanding Die.*—August 20, 1867.—The cutter seat has inclined dovetailed grooves for the reception of the flanged dovetailed heads of the cutters. The bodies of the cutters fit in slots in the interior tube. The cutters are adjusted in the inclined grooves to the size of the bolt on which the screw is to be cut.

*Claim.*—First, the combination of the dovetailed cutters B, interior slotted tube C, and cutter seat A with each other, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the band or nut D with the cutter seat A and interior slotted tube C, substantially as herein shown and described and for the purpose set forth.

**67,994.**—O. W. LUDLOW, Dayton, Ohio.—*Water Wheel.*—August 20, 1867.—The wheel has inward flow and bottom discharge. The bucket axes extend above the top plate and have radial arms connected by rods to a collar sliding on the main shaft and operated by a lever. This device turns the buckets into operative position. The discharge chute has a pipe connecting it with the air above and the water level, and has a regulating valve.

*Claim.*—First, the construction and arrangement of the arms  $b$  attached to the pivoted rods  $a$  of the buckets G, their inner ends connected by the rods C to the sliding collar H, operated by means of the rods K and lever L, as herein set forth, for the purpose specified.

Second, the vent tube, or ventilating pipe P, applied to the draft tube O and provided with a valve, substantially as and for the purpose set forth.

**67,995.**—EPHRAIM MAGUIRE, Kewanee, Ill.—*Coal Chute.*—August 20, 1867.—The chute has hinged doors to conduct the coal to the tender and to guard the chute at its mouth. The conducting door, on being turned into position, releases the door, permitting the coal to discharge.

*Claim.*—The hinged bar E, rod F, and rope H, arranged and employed as described, in combination with the doors B C, notched arms D<sup>2</sup>, and catches G, all arranged and operating in the manner and for the purpose specified.

**67,996.**—AUGUSTUS MARSH, Newark, N. J., assignor to himself and WM. HOGG, Melrose, N. Y.—*Apparatus for Stretching Skins.*—August 20, 1867.—The pivoted nippers are tightened on the hide by the straps that suspend it within the frame. The latter is expanded by serews at the corners.

*Claim.*—The frame A, with the double sockets  $b$ , serews  $c$ , when constructed and operated substantially as described, for the purpose of stretching raw or tanned hides or skins.

Also, the nippers and straps, in combination with frame A, for attaching the skins or hides thereto for the purpose of stretching the same.

**67,997.**—HENRI MESSMER, Newark, N. J., assignor to himself and ISAAC HEY, jr., same place.—*Preparing Vegetable Fibres for Textile and other Fabrics.*—August 20, 1867.—Explained by the claim.

*Claim.*—The process herein described of treating fibrous plants for the purpose of separating or extracting the fiber therefrom, substantially as set forth.

**67,998.**—ALFRED H. MOTT, DANIEL WINER, and LAWRENCE BRINK, Lockport, N. Y.—*Roofing Compound.*—August 20, 1867.—Pulverized fish shell, forge cinders, coal ashes and coal cinders, coal tar, and molder's sand from iron castings.

*Claim.*—A roofing or sizing compound, substantially as described.

**67,999.**—W. W. S. ORBETON, Haverhill, Mass.—*Hinge and Blind Supporter.*—August 20, 1867.—An elongated plate which may carry the hinge socket has a screw to enter the shutter and a slot to receive the screw-driver.

*Claim.*—The said blind supporter, made substantially as described, as a new article of manufacture.

**68,000.**—J. W. PETTENGILL, Rockford, Ill.—*Churn Dasher.*—August 20, 1867.—A moving disk slides between two fixed disks. The perforated wings hinged to the center piece stand rectangularly to each other and oscillate with the movement of the dasher.

*Claim.*—A dasher for churns, &c., consisting of three or more perforated dishes or plates C, D, and E, arranged together substantially as and for the purpose described.

Also, the center piece to the stem or handle, carrying angular perforated wings, substantially as and for the purpose described, and whether used in combination with the three or more disks to such stem or not.

**68,001.**—C. POTTER, Jr., Westerly, R. I.—*Printing Press.*—August 20, 1867.—The projections beneath the form table take under anti-friction rollers in oscillating spring levers, to hold the ends of the table down and prevent jar at the ends of the movement.

*Claim.*—First, the hook projections E E at the under side of form bed C, in combination with the levers G G, when the latter are arranged in such a manner as to admit of being adjusted relatively with the former by the serews or pins  $c$ , or their equivalents, for the purpose specified.

Second, the pivoted nuts  $c$  in the lower part of the levers G G, in connection with the serews  $f$ , arranged as shown, or in an equivalent way, for the purpose of regulating the tension of the springs I, as set forth.

**68,002.**—H. A. POTTER, Providence, R. I.—*Wheel for Vehicles.*—August 20, 1867.—The edges of the tire have inturned beveled flanges. The ends of the tire lie on a metallic plate let into the felloes, and are held by bolts traversing the rim and having an eccentric part within the plate, which, when the bolt is turned, acts to tighten the tire. These traversing



bolts may pass through slots in the plate and be moved by wedges.

*Claim.*—First, the beveled felloes A, in combination with the plate C, tire B, bolt D, provided with cam E, substantially herein shown and described and for the purpose specified.

Second, the sliding blocks F H, in combination with the tire B, plate C, and bolts D, substantially as herein set forth and for the purpose specified.

**68,003.**—R. B. PRINDLE, Norwich, N. Y.—*Wagon Jack.*—August 20, 1867.—The connecting rod of the gate is pivoted to the crooked end of the lever, which projects back sufficiently to retain its position.

*Claim.*—The arrangement and combination of the slotted post A, sliding gate B, with its hooks *ee*, connecting rod E, and crooked fulcrum lever D, whereby the weight is raised and held by the lever without the aid of other fixtures, as herein described.

Also, the adjustable slide frame *h h* attached to the gate B, in the manner described, operating substantially as and for the purposes herein set forth.

**68,004.**—CHRISTOPHER T. PROVOST, New York, N. Y.—*Anti-dyspeptic Bitters.*—August 20, 1867.—For treatment of dyspepsia. Hard cider, 1,600; Virginia snakeroot, 12; gentian root, 24; orange peel, 16; calamus root, 4; and cardamon seeds, 3 parts.

*Claim.*—First, the combination of hard cider with other ingredients for anti-dyspeptic compounds.

Second, an anti-dyspeptic stomach bitters, composed of the ingredients in the manner set forth.

**68,005.**—CHARLES ROWLAND and JOSEPH G. ROWLAND, Quincy, Ill.—*Condensed Leather Peg.*—August 20, 1867.—The leather is compressed between dies to harden it in the form of a corrugated plate with sharpened points, making a substitute for wooden shoe pegs.

*Claim.*—A peg made of condensed leather, whether the same is made in the form of single pegs or in the form of a corrugated or plain strip from which the pegs may be cut, substantially as described.

**68,006.**—CHARLES ROWLAND and JOSEPH G. ROWLAND, Quincy, Ill.—*Machine for Making Condensed Leather Pegs.*—August 20, 1867.—The metallic rollers with corrugated faces impress the leather into shape and consistency for shoe pegs.

*Claim.*—First, the process of making pegs by compressing or condensing leather, substantially as described, whether the pegs be severed at the time of compression or the strips be first condensed and then cut into separate pegs.

Second, two or more rolls having recesses or dies formed on their periphery, and arranged to operate as described, for the purpose of compressing leather or other material to form pegs, substantially as set forth.

**68,007.**—JOSEPH SCHENKER, Brownsville, Minn.—*Windmill.*—August 20, 1867.—Water is pumped by a windmill into an elevated reservoir, and its head used to turn machinery by means of an arrangement similar to bellows, but actuated by water instead of air, the moving flap of the same being connected to a crank. The water ports are alternately opened and closed automatically.

*Claim.*—The self-acting shut-off of the bellows G, operated by the weighted rod I, pins *q q'*, arm *r* and *r'*, on rod S and rod L, and by the aid of the spring *f* and weighted lever *u*, all substantially as and for the purpose herein shown and described.

**68,008.**—CHALMERS SCOTT and WILLIAM H. MORTON, Hamilton, Ohio.—*Revolving Cylinder Engines.*—August 20, 1867.—The end of the piston rod is connected to a wrist-pin on the rim of the fly-wheel. The cylinder rotates with, but eccentrically to, the fly-wheel, and its rotation opens and closes the steam ports.

*Claim.*—The arrangement of the hollow revolving shaft D, having the stationary bar passing through it, to which is secured the arm *a*, cylinder A, fly-wheel E, and stand C', substantially as described for the purpose specified.

**68,009.**—C. STEBBINS, Pike, N. Y.—*Sewing Machine.*—August 20, 1867.—When the eye of the needle is entering the cloth the thread is freed from the catch

by the cast-off, which is connected to the presser foot so as to give more slack when sewing thick cloth. The shuttle thread passes out and in through holes in the shuttle side beneath a tension spring and under the thread to cause proper tension. The thread when carried down by the needle escapes through a curved passage to form the shuttle loop. Said passage is curved in such manner as to prevent the shuttle colliding with the needle. The feed dog is actuated by a cam by which it is raised in its forward stroke and depressed in its return.

*Claim.*—First, the combination of the cloth presser Q, the thread lifting lever C, the tension device B, the catch A, the cast-off D, and the lever E, the said combination being organized substantially as described, so that by its mode of operation slack shall be given to the thread according to thickness of the work when the eye of the needle reaches the surface of the cloth, as and for the purposes specified.

Second, interlocking the shuttle thread with itself in its passage from the bobbin to the work after passing in and out through the holes 1 2 3 in the shell, substantially as and for the purposes herein described.

Third, the curved passage formed by the lip *h* in the needle throat, substantially as and for the purpose specified.

Fourth, the combination of the eccentric *h*, sliding rod *m*, stirrup *p*, and dog *k*, substantially as herein shown and described for the purpose specified.

**68,010.**—ABRAHAM STEERS, New York, N. Y., assignor to himself, HENRY L. ELDER, and S. H. KENNEDY, Philadelphia, Pa.—*Leaching Tan Bark.*—August 20, 1867.—The bark is contained between two perforated horizontal partitions in the leach, the lower one having a coiled steam pipe for heating the contents. The menstruum may be forced through the bark in either direction by means of pipes furnished with valves to determine the said current.

*Claim.*—First, passing the menstruum through the bark contained in the leach or leaches in an upward instead of a downward direction, substantially as and for the purpose described.

Second, heating the bark with live or exhaust steam after the same has been partially extracted by the cold menstruum, and then washing it out with water or weak tan liquor, substantially as and for the purpose set forth.

Third, the use of the perforated false top or perforated guard channel *h*, in combination with the still to prevent the bark from passing into the pipes with the liquor, substantially as described.

Fourth, the use of a forced current of liquid or fluid through the matter operated on, and the adjustment of the second connecting pipes and valves for that purpose whereby the force of the pump can be used to clear out obstructions in the piping, as set forth.

Fifth, forcing the liquor through a series of leaches by the action of a pump or by means of steam, or both combined.

**68,011.**—ALBERT STRONG and JOS. A. DADMUN, South Boston, Mass.—*Fruit Stem Cutter.*—August 20, 1867.—The blade is secured in a recess on a projection attached to the ring. A curved recess on the front of the ring prevents its turning on the finger.

*Claim.*—Said fruit stem cutter, constructed substantially in the manner as represented, and to be used as described, viz: of the blade and tube connected and arranged as set forth, and the notch formed in the latter, the whole being as and for the purpose specified.

**67,012.**—JAMES SWAN, Seymour, Conn.—*Manufacture of Augers.*—August 20, 1867.—The bits are pressed to form by subjection to a series of suitably shaped dies, shown in the illustration. The lip is formed by a rotating cutter.

*Claim.*—The method of constructing auger bits by means substantially as herein shown and described.

**68,013.**—ESAU TARRANT, Muskegon, Mich.—*Sawing Machine.*—August 20, 1867.—The feed rollers are serrated and below the board, the pressure roller being hung on a pivoted frame and drawn down by elastic bands.

*Claim.*—The roller E hung in the pivoted frame S, made adjustable by means of the elastic H, in combi-



nation with the rollers D having sharp points or teeth *d'*, substantially as described for the purpose specified.

**68,014.**—C. VERNIAND and D. J. LUCIE, Quincy, Ill.—*Pump*.—August 20, 1867.—At the cylinder ends are chambers communicating with other chambers above and below the said cylinder. These communicating passages are governed by clock valves in such manner that the reciprocation of the piston draws water through the lower and discharges it through the upper chamber.

*Claim.*—The cylinder heads D, constructed as described, provided with the projecting inclined flange *g*, upon their upper sides, fitting over the upper sides of the cylinder A, the latter provided with corresponding inclined projecting inclined flange *f* upon its lower side, fitting into the lower part of the heads D, all arranged as described, whereby the said heads D are prevented from having any vertical movement independent of the cylinders, as herein shown and described.

**68,015.**—ELIJAH WARE, Bayonne, N. J.—*Machinery for Propelling Steam Carriages*.—August 20, 1867.—The train of gearing is so arranged that the purchase may be doubled or the direction reversed. The devices are enumerated in the claims.

*Claim.*—First, the combination of the gear wheels C E F G, arranged substantially as herein described for the purpose specified.

Second, the running wheel D, the brake wheel K, the pulley B, and the double ratchet P, in combination with the gear wheels, substantially as described.

Third, the brake wheel K, in combination with the gear wheels, as described.

**68,016.**—JOSHUA WEBSTER, Malden, Mass.—*Apparatus for Preparing Peat for Fuel*.—August 20, 1867.—The reciprocating scrapers and pressure rolls work upon the incline in connection with a hopper for receiving the peat therefrom. The peat in the hopper is forced by the follower into a series of pockets in the intermittently rotating wheel and is followed by compressing and expelling pistons.

*Claim.*—In combination with the incline and its system of feeding scrapers and presser rolls, the filling, compressing, and discharging plungers, arranged to operate substantially as set forth.

Also, the arrangement of the mechanism for intermittently bringing the respective filled and empty molds into position under the respective filling, compressing, and discharging plungers, substantially as shown and described.

**68,017.**—S. B. WELTON, Waterbury, Conn.—*Wagon Wheel*.—August 20, 1867.—The chamber of the metallic hub is cylindrical and the outside of the box is similarly formed to suit. The latter is shorter than the former, so as to have end movement in it to compensate for wear by moving inward on the tapering axle.

*Claim.*—The axle box B, provided with a spiral groove upon the outer side and adjustably secured in place in the hub E by the set screws C and D, substantially as herein shown and described and for the purposes set forth.

**68,018.**—NATHAN WESTON, Jr., West Newton, Mass.—*Mosquito and Fly Net*.—August 20, 1867.—The lace insect-excluding curtain is secured to the frame by the knobs and weighted or elastic cords.

*Claim.*—The combination and arrangement of the cord and the series of buttons or knobs, or their equivalents, with the window frame and the curtain applied thereto, substantially as specified.

**68,019.**—JAMES WHITE, Cleveland, Ohio.—*Fruit Box*.—August 20, 1867.—The can is placed upside down for filling; the movable bottom is placed on the shoulder, and the metallic springs close in and hold it in position.

*Claim.*—The movable bottom B, in combination with the strips D and box, substantially as and for the purpose set forth.

**68,020.**—J. WILSON and R. HUGHES, Boston, Mass.—*Wood Turning Lathe*.—August 20, 1867.—The height of the presser roll, the surface of the table, and the position of the gauge are adjusted to center

the stock in accordance with its thickness and in reference to the cutters. The stock having been fed in by the feed rolls and the clutch thrown back, when the point of the cam strikes the finger, the cam in its rotation forces the finger forward, carrying with it the cutter into the stock to the depth required to be cut.

*Claim.*—The feeding stock automatically and intermittently forward into position for the action of the cutter or cutters, and holding the same stationary during the cutting operation, by mechanism substantially as set forth.

Also, in combination with automatic intermittent feed mechanism, substantially as described, mechanism substantially as described for automatically bringing up the cutters into operation upon the stock and for carrying them back after each operation.

Also, the feed mechanism, cutting mechanism and sawing-off mechanism, when arranged substantially as set forth, to operate automatically and in succession.

**68,021.**—DANIEL WITT, Hubbardstown, Mass.—*Rocking Chair*.—August 20, 1867.—The seat is pivoted to the lower frame at midlength and steadied by springs. The back of the seat is supported on a block drawn up by a lever when desired to permit its tilting backward. The back is pivoted, and is adjustably supported by a ratchet and pawl.

*Claim.*—First, the arrangement of the seat B, the side pieces *b b*, pivoted on the base A, and the spiral springs *c c*, to give the seat a regular rocking or oscillating motion, substantially as herein described.

Second, the segment racks *e e* and spring dogs *g g*, in combination with the back C, seat B, shifting lever K, and block H, substantially as described for the purpose specified.

Third, the shifting lever *k* and block *h*, in combination with the seat B, arranged and operating as and for the purpose specified.

**68,022.**—JAMES B. WOOD, Lansingburg, N. Y.—*Sash Brush*.—August 20, 1867.—The bristles are inserted in a tapering metallic ferrule, a piece fitting across their butts. The hollow metallic handle is inserted in and soldered to the ferrule.

*Claim.*—The metallic packing C, in combination with the ferrule B, bristles A, tapering metallic handle D, with its open end E resting upon back C in the ferrule B, as herein set forth for the purpose specified.

**68,023.**—B. F. WOODSIDE, Atlanta, Ga.—*Bedstead*.—August 20, 1867.—The side rails are folded inward to admit the near approach of the head and foot frames. The bottom is in two sections, which rest upon hinged ledges of the head and foot, and upon pins on the side rails.

*Claim.*—First, the slat frames G, hinged to the end rails F in such a manner as to be each folded vertically against the head and foot boards, and when turned down to rest upon the pins H in the hinged side rails E, thereby holding them spread and the bedstead in position, as herein set forth for the purpose specified.

Second, the sections *e<sup>1</sup>* and *e<sup>4</sup>* of the side rails E, provided with holes for the reception of the pins H upon the sections *e<sup>2</sup>* *e<sup>3</sup>*, when folded together, whereby the bedstead is folded more compactly and vertical movement of the sections permitted, as herein set forth for the purpose specified.

**68,024.**—JOHN H. YATES, Batavia, N. Y.—*Flat-iron Heater*.—August 20, 1867.—The cast-iron support for setting on a stove encloses a conical deflector, which directs the heat against the bottom of inclined planes on which the irons are placed.

*Claim.*—First, the construction and arrangement of the base A, with or without the grate B, upper pyramidal section C resting upon the base A, and provided with slotted swinging doors *b* and partition *a*, the hollow deflector D within the base A and section C, forming flues between the ribs *a a*, and inclined bottoms of the flat iron compartments, as herein set forth for the purpose specified.

Second, the close flat iron heater, when constructed as described, for being adapted to fit into the pot holes of a stove, substantially as described for the purpose specified.

Third, the combination and arrangement of the



base A, whose upper edge is adapted to support the flat iron, in combination with the inclined flat iron compartments formed in the section C, and provided with the slotted swinging cover *b*, as herein set forth for the purpose specified.

**68,025.**—R. W. YOUNG, Richmond, Va.—*Liquid Meter*.—August 20, 1867.—The floats and their valves occupy two chambers, and are suspended to opposite ends of the oscillating beam. The valve stems have a limited sliding motion in the floats, so that the float will rise to a sufficient height without raising the valve to permit the emptying of the chamber. At the point of discharge the weighted rod is thrown past the vertical, and closing the valve to this chamber opens the induction pipe to the other chamber, depressing that float sufficiently to close the escape valve.

*Claim.*—First, the weighted rod I and arm K, in combination with the valve C, beam E, and floats G G', substantially as and for the purposes set forth.

Second, the connections *h h'* between the valves H H' and float rods F F', to actuate the former by the latter but permit independent motion.

**68,026.**—JESSE ADAMS, Clarksville, Texas.—*Combined Planter and Cultivator*.—August 20, 1867.—The plow frame is supported on a wheel at the rear, and is raised by the upright lever. The seed hopper has a perforated bottom with a valve periodically opened by a lever that is actuated by pins on the inside of one of the wheels.

*Claim.*—First, the agitating and distributing attachment above described, consisting of the perforated bottom of the box G, in combination with the valve *a*, lever *c*, and pins *t t* on the wheel W, all constructed and operating in combination with each other, substantially in the manner and for the purposes specified.

Second, the combined planter and cultivator above described, constructed and operated substantially as set forth.

**68,027.**—FRANÇOIS ANGILARD, Royan, France.—*Fish Hook*.—August 27, 1867.—When the fish is caught on the lower hook the tightening of the line suddenly draws down the suspended harpoon hook and impales the fish.

*Claim.*—First, in fish hooks, the arrangement of the line *l* and holes *e o*, relatively to the two branches *a f*, jointed together at the point *b*, above the hole *o*, substantially as and for the purpose herein specified.

Second, in connection with the above, the spring catch *c*, arranged as specified, adapted to hold up the hinged branch *f* of a double-branched fish hook, and to release it with a very slight pull on the line *l*, substantially as and for the purpose herein specified.

**68,028.**—PIERRE JOSEPH BADOUX, New York, N. Y.—*Compound for Purifying Spirits and other Liquids*.—August 27, 1867.—For purification and discoloration of liquids. Quick lime, 100 lbs.; water, 250 lbs.; flour of sulphur, 50 lbs.; sulphate of zinc, 100 lbs.; sulphate of baryta, 100 lbs.; neutralized with nitric, sulphuric or muriatic acid.

*Claim.*—First, the composition herein described, for purifying and discoloring spirits and other liquids, substantially as described.

Second, the combination of sulphur, lime, sulphate of zinc or iron, sulphate of baryta, and any acid or acids, as nitric, muriatic, or other mixture.

Third, the combination of bisulphate of lime, sulphate of zinc, and sulphate of bismuth or iron, for the purification of spirits.

**68,029.**—CHARLES J. BALL, Keokuk, Iowa.—*Hinging Covers to Tops of Cooking Stoves*.—August 27, 1867.—The covers are hinged to pivoted plates so as to be thrown back or rotated from their seats.

*Claim.*—The application to cooking stoves of covers or lids turning or revolving horizontally about a center outside of the apertures, and constructed substantially as specified.

**68,030.**—A. T. BARNES, Tiffin, Ohio, assignor to himself and N. M. BARNES, same place.—*Fruit Picker*.—August 27, 1867.—The bag is attached to the fixed jaw, and the movable spring jaw grasps the fruit when released by the cord.

*Claim.*—First, the combination of the spring E, fixed and movable jaws, and sack or fruit receiver D, all arranged and operating substantially in the manner and for the purpose described.

Second, the use of the spring E, which is applied to the fixed and movable jaws, substantially in the manner and for the purposes described.

Third, the manner herein shown and described of guarding the spring E, when arranged within a recess, formed substantially as explained.

**68,031.**—J. A. BARTLETT and F. WALLMAN, Orfordville, Wis.—*Propelling Sleds by Hand*.—August 27, 1867.—The double action pivoted levers are attached to spiral springs, and are used either as propellers or as brakes.

*Claim.*—A hand sled, when constructed with a system of levers attached thereto to be operated by hand for propelling and steering the same, substantially as set forth.

**68,032.**—ALFRED C. BELT, Goresville, Va.—*Plow*.—August 27, 1867.—The curved edge at the junction of the mold board and landside is extended to the beam to prevent choking. The reversible share and cutter are adjustable in different positions, and enable its application to a variety of work.

*Claim.*—First, the mold board C, made in the form shown and described, and provided with a cutting edge extending to or nearly to the plow beam, in the manner and for the purpose set forth.

Second, the grooved reversible share G, constructed and operating substantially as described.

Third, the extension double-reversible cutter F, arranged and operating as described.

Fourth, the round, adjustable, self-sharpening extension point H, operating as described.

Fifth, the false share for securing the removable cutter, share, and point in place, as described.

Sixth, the combination of the reversible cutter, reversible share, and adjustable extension point with the false share and moldboard, in the manner and for the purpose substantially as described.

**68,033.**—WILLIAM E. BIRD, West Bridgewater, Mass.—*Making Cores for Pipe Casting*.—August 27, 1867.—The core sand is placed on the platen and run beneath the striker bar and the core spindle. In its passage the sand is taken up by the core spindle and forms a coat on the outside.

*Claim.*—First, the method of forming a sand core by making on a platen a sheet of core material of the desired shape and size, and then transferring it to the core spindle by causing the said spindle to roll over said sheet of core material, substantially as described and for the purpose set forth.

Second, the combination and arrangement of the platen with the adjustable revolving core spindle and chain, or its mechanical equivalent, made substantially as described and for the purpose set forth.

Third, the platen F, in combination with the striker K, made substantially as described and for the purpose set forth.

**68,034.**—THOMAS BOGAN, Lacon, Ill.—*Churn*.—August 27, 1867.—The box of the churn has two connecting compartments. In one a horizontal paddle wheel works and drives the cream through the compartments in a continuous current. A gatherer is placed in one section, on which the butter is collected.

*Claim.*—First, the combination of the treadle H, rod I, and gear wheels J K, or their equivalent, with the paddle wheel E, arranged and operating substantially as herein specified and shown.

Second, the combination of the partition B, provided with openings *a b*, the slide L, paddle wheel E, and treadle H, with intermediate gearing, arranged and operating as herein specified and shown.

**68,035.**—JOHN B. BRACKETT and W. DEARBORN, Boston, Mass.—*Cotton Gin and Picker*.—August 27, 1867.—Dirty, unginned cotton is fed over the feed table and is passed over perforated plates by the toothed cylinder; it is blown forward by the rotating fans to the clearers, is caught by the teeth of the shark skin and drawn past the pressure bar, where it is cleaned of seed. It is then brushed off by the doffer and falls in front of the gin.

*Claim.*—First, the employment of shark skin, dog



fish skin, or shagreen dressed hides, as a covering for rollers for cotton gins, substantially as and for the purpose described.

Second, the method of adjusting pressure bar D by thumb screw *d* and set screw *f*, arranged and operating substantially as described.

Third, the arrangement, described and shown, for adjusting and operating clearers E, consisting of pivot pin *g*, fixed in a slot of the frame by screw *n* and slotted side plate *h* of the clearer, and eccentric pin *i*, revolved as described, all operating together in the manner set forth.

Fourth, the doffer F, consisting of slotted cross-bars with their rubber brush *p*, sustained by wings *n* and clamping screws *o* upon shaft *m*, the whole driven and operating substantially as described, and also when arranged with slotted brackets *g*, as and for the purpose described.

Fifth, the arrangement, as a feed table to a cotton gin, or in combination with the feed table to a cotton gin, of the cleaning and feeding apparatus, consisting of sieves, covers, toothed cylinders, and fans, as and for the purpose described.

Sixth, the arrangement of fans M or N with toothed cylinders in a cotton cleaner, all operating substantially as described.

**68,036.**—WILLIAM BRADLEY, Lynn, Mass.—*Wash Basin*.—August 27, 1867.—The basin has a projecting soap box, which also answers for a handle.

*Claim.*—The combination of the wash basin and soap box or receptacle, attached together, as specified.

**68,037.**—GEORGE E. BRIDGER, Milwaukee, Wis.—*Egg Beater*.—August 27, 1867.—The cylinder has a sliding cover, and within one end is a rapidly rotating disk, having a series of longitudinal pins reaching nearly to the other end.

*Claim.*—Cylinder B, with support I and post K, beater C, shaft D, pinion E, shaft F, cog-wheel G, and crank H, arranged and combined substantially as and for the purpose described.

**68,038.**—AUGUSTUS P. BROWN, New York, N. Y.—*Steam Generator Water Gauge*.—August 27, 1867; antedated June 11, 1867.—The two self-acting valves are placed between the ends of the transparent tube of the water gauge, and are arranged with springs in connection with the tube and boiler, so that when the tube breaks the valves shut off the steam.

*Claim.*—First, the arrangement of self-acting valves F F<sup>1</sup>, between the ends of the glass tube B of a water gauge, and the steam boiler to which said gauge is attached, substantially as and for the purpose described.

Second, the springs *b b*<sup>1</sup>, in combination with the valves F F<sup>1</sup>, seats *a a*<sup>1</sup> and tube B, constructed and operating substantially as and for the purpose set forth.

The disks *c c*<sup>1</sup> on those ends of the valve stems which face the ends of the glass tube B, substantially as and for the purpose described.

Fourth, the rod *d* and handle *e*, in combination with the valve F, seat *a* and tube B, constructed and operating substantially as and for the purpose described.

**68,039.**—WM. F. BROWNE and A. J. HOYT, Washington, D. C.—*Water Wheel*.—August 27, 1867.—The wheel has an upward central induction and outward and then downward flow, the latter through a supplementary wheel surrounding the other. An inward opening valve of the induction pipe prevents collapse.

*Claim.*—The combination of an inner centrifugal or reaction wheel H and outer wheel I, which discharges downward and below the inner wheel through buckets *s s* that curve downward and backward, and the discharge apertures of which are of such size as to keep the wheel filled with water, substantially as and for the purpose herein specified.

Also, a valve N, arranged in the induction pipe D, between the valve or gate and the wheel, and operating substantially as and for the purpose herein set forth.

**68,040.**—DAVID W. BUSH, Clarence, Mo.—*Tool for Clinching Nails in Horse-shoeing*.—August 27,

1867.—The lower jaw being placed against the head of the nail, the lip of the upper jaw engages and clinches the point.

*Claim.*—The combination of the arms A<sup>1</sup>, the jaw B, jaw C, lip *e*, springs D and stops *d*<sup>1</sup>, as and for the purpose herein set forth.

**68,041.**—S. G. CABELL, Quincy, Ill.—*Electrical Apparatus for Preventing Incrustation of Steam Boilers*.—August 27, 1867.—A series of magnetized points are attached to a permanent magnet, a simple conductor, or a rod composed of dissimilar metals. They are arranged within a chamber attached to the boiler, and connecting therewith by a stop cock. They are adjustable to regulate the action.

*Claim.*—First, the external chamber C attached to the steam boiler, when provided with a stop cock to cut off or regulate its communication therewith, for the purpose specified.

Second, in combination with the said chamber C, a rod F, constructed with points G, arranged within the chamber, and insulated therefrom, in the manner substantially as and for the purpose set forth.

Third, in combination with the chamber C and rod F, constructed with points G, arranged within the chamber and insulated therefrom, said rod being a simple conductor, a permanent magnet, or composed of two dissimilar metals, substantially as and for the purpose described.

**68,042.**—R. A. CAMERON, Valparaiso, Ind.—*Hemorrhoidian*.—August 27, 1867.—The nipple on the bulb enters the rectum, and a stream of cold water is passed through the bulb, which circulates within the closed portion within the rectum.

*Claim.*—The ellipsoidal bulb A, having the protuberance B, when constructed and operated substantially as and for the purpose set forth.

**68,043.**—C. L. CARTER, Union City, Ind.—*Attachment for Clothes Wringers*.—August 27, 1867.—The tub containing water or suds is attached to the top of the wringer, and has pipes projecting from its bottom that convey the liquid for saturating the clothes.

*Claim.*—The arrangement of the saturator *a* with the wringer as herein described, for the purpose set forth.

**68,044.**—SAMUEL CHAPMAN, Newark, N. J.—*Kiln for Drying and Preparing Peat*.—August 27, 1867.—The peat is placed on the foraminated top of the truck, and run into the air-tight chamber, where it is subjected to heat from a stove beneath. The moisture is converted into steam, which compresses the peat, and which is condensed on the inclines of the metallic roof, and conveyed by troughs to the water space in the walls. The oleaginous vapors are condensed on the walls, and caught in troughs.

*Claim.*—First, the mode of desiccating, compressing, and extracting the oleaginous, bituminous, resinous, or other similar constituents, from peat and other substances, by the continued application of heat only in a tight chamber, substantially as set forth.

Second, the combination within an air-tight chamber of a heating apparatus, suitable supports for the material to be desiccated, and condenser for collecting and carrying off water evaporated, substantially as and for the purpose set forth.

Third, the combination of the roof D, troughs D<sup>1</sup>, well E and pipe F, substantially as and for the purpose set forth.

Fourth, the combination of the stove or furnace H and pipes I, arranged in relation to the air-tight chamber and one another, substantially as set forth.

Fifth, the combination of the stove or furnace H and pipes K, arranged in relation to the air-tight chamber and one another, substantially as set forth.

Sixth, the combination and arrangement of drying frame C, troughs C<sup>1</sup> and well M, substantially as and for the purpose set forth.

Seventh, the process of drying and compressing peat by the continued application of heat alone in an air-tight chamber, substantially as set forth.

**68,045.**—S. CHILDS, Jr., and R. A. COPELAND, Baltimore, Md., assignors to SAMUEL CHILDS, Jr., same place.—*Vapor Burners for Heating*.—August



27, 1867.—The tubes conduct the fluid to the vaporizing chambers, and the valves regulate the supply.

*Claim.*—First, in apparatus, as herein described, the method of regulating the supply of fluid to the retort, by locating the opening through which the oil enters the retort, so that it shall be above the level, both of the valves for regulating the flow of the oil from the reservoir, and of that portion of the supply pipe between the said valve and the retort, substantially as described.

Second, in combination with one or more supply pipes, communicating with the retorts or vaporizing chambers through openings arranged as described, a regulating valve, or cock, or equivalent device, placed at any point between the said supply pipes and the main or reservoir pipe, but so that it shall be below the level of the said openings, whereby the flow of oil to each and every retort may be simultaneously regulated, substantially as shown and set forth.

Third, in combination with the pipes and main valve or cock, arranged relatively to each other, as described, the check valves, located in the respective openings through which the oil enters the retorts, so that by the movement of the main valves the said check valves shall operate automatically to open or close the entrances to the retorts, substantially as herein shown and set forth.

Fourth, enclosing the supply pipe within a tubular jacket which carries the retorts, or itself constitutes the chamber in which the oil is vaporized, the said pipe and jacket being disconnected and separate, so as to form between them a continuous annular space in which the vaporized fluid is held, substantially as and for the purposes shown and set forth.

**68,046.**—GREVILLE E. CLARKE, Racine, Wis.—*Animal Trap.*—August 27, 1867.—The baited platform is connected with the catch that holds up the door. The pivoted platform, leading into the interior chamber, has connections with the door so that as it is turned by the weight of the animal it resets the trap.

*Claim.*—The combination and arrangement of the pivoted platform H, the piece F, the strips or rods E and D, and the door B, when constructed and operating substantially as set forth.

**68,047.**—ELEAZER M. CONKLING, Parma, N. Y.—*Weeding Hoe.*—August 27, 1867.—The steel plate is let into the iron head-piece, at such an angle and so formed as to act as an ordinary hoe or a scuffle hoe.

*Claim.*—First, the combination of the coultter and keel, formed in one piece, with the blade B, all constructed and arranged substantially as described.

Second, the blade B having its front edges arranged so as to form, if produced, a salient angle, and its rear edges so as to form re-entrant angle, substantially as described.

**69,048.**—MATTHEW F. CONNETT, Ladoga, Ind.—*Cutter Head for Planing Machines.*—August 27, 1867.—The cutters are adjusted to the revolving head so as to leave a central space between the knives, which are placed on the opposite sides of the head, leaving a ridge that escapes the cutters and constitutes a gauge. The rim left uncut on the outer edge forms a guide.

*Claim.*—A cutter head for turning plow handles, when constructed with the knives B B, which are so arranged as to leave a central space to limit the penetration of the cutters and guides at the edges of the cutter head, as and for the purpose specified.

**68,049.**—JACOB J. CUMMINGS, Independence, Mo.—*Churn Dasher.*—August 27, 1867.—The dasher is concave below, and has apertures through it in various directions through which the cream is forced on its descent.

*Claim.*—A churn dasher combining in its construction the following elements: The concave or dished bottom, the vertical openings D, the diagonal openings E, the lower flange G, and the upper downwardly curved flange F, said parts being arranged substantially as set forth.

**68,050.**—H. V. DAVIS, Amherst, N. H., assignor to BENJAMIN WHITING, Hollis, N. H.—*Hand Seed Planter.*—August 27, 1867.—The shaft of the wheel

rotates to the outlet of the hopper and has recesses therein that carry the seed to the guide trough, at the foot of which the furrow plow works. The plow and the covering hoe that follows are adjusted by the lever.

*Claim.*—First, the combination with the wheel E and shaft D of the staple C and pin d, substantially as set forth.

Second, the combination with the seed box C and handle A of the grooved guide-piece I, plow J, lever K, and covering device M g g and h h, substantially as and for the purpose set forth.

Third, a hand seed planter, all the parts of which are constructed and combined together for operation, substantially as and for the purpose set forth.

**68,051.**—JEREMIAH DEAN, Freeport, Ill.—*Medicine.*—August 27, 1867.—For treatment of pulmonary diseases. A decoction of the buds or roots of Indian gum, or rosin weed, mixed with sugar for its preservation.

*Claim.*—The medicine prepared substantially as herein described.

**68,052.**—WYMAN DEARBORN, Boston, Mass.—*Construction of Rubber Rollers for Cotton Gins.*—August 27, 1867.—Alternate disks of metal and rubber are placed on the spindle and clamped by nuts.

*Claim.*—The washers d, fixed on spindle a, and rotating with it by tongue i, fitting in groove f, arranged alternately with elastic disks c on said spindle, and clamped together to substantially form a solid roll by clamping plates b and g, as shown, and further held by wires e parallel to said spindle, substantially as described.

**68,053.**—BENJAMIN K. DORWART, Lancaster, Pa., assignor to himself and FRANK STAHL, same place.—*Shutter Fastening.*—August 27, 1867.—The pivoted bolt is secured within the shutter and its catch projected into the sill by a spring against its rear arm. The latter has a trigger attached for withdrawing the catch.

*Claim.*—The curved bolt C, secured within the shutter lugs B, on a base plate A, one end of the bolt to pass through an open slot in the bed plate, and the other end provided with a trigger D, in combination with the slotted stop plate F and shouldered wall staple H, all arranged and operated in the manner and for the purpose specified.

**68,054.**—JOHN H. DOUGHTY, New York, N. Y.—*Clothes Dryer.*—August 27, 1867.—The round bar frames are connected above by double socket plates attached by screws on which they turn.

*Claim.*—First, the metallic thimble c, in combination with the uprights a of a clothes-horse composed of two or more sections, substantially as and for the purpose described.

Second, the caps e and screw pivots f, in combination with the uprights a of a clothes-horse, constructed and operating substantially as and for the purpose set forth.

**68,055.**—JABEZ B. DOWSE, Lockport, Ill.—*Apparatus for Exploding by Electricity.*—August 27, 1867.—Explained by the claims and illustration.

*Claim.*—First, the mode of firing simultaneously by electricity two or more charges of explosive material by the application of two or more inductors, so arranged that one shock or current of electricity in passing simultaneously through the primary coils of such inductors induces in the secondary coils of such inductors, simultaneously, separate secondary shocks or currents of electricity, each of which said secondary shocks or currents is made to fire separate charges of explosive materials simultaneously.

Second, the explosive compound, copper amalgam, consisting of finely divided copper and fulminate of mercury intimately mixed together with a liquid such as water.

**68,056.**—REUBEN N. EBY, Upper Leacock Township, Pa.—*Cultivator.*—August 27, 1867.—The plow frames are pivoted to the main frame and are operated laterally and simultaneously by connected levers. Opening spouts may be attached communicating with seed hoppers, whose slides are actuated by cranks on a shaft rotated by a belt from one of the ground wheels.



*Claim.*—First, the combined levers R r r as constructed and arranged for shifting two cultivators in unison, for the purpose and substantially in the manner specified.

Second, in combination with combined shifting levers R r r the application of two separate cultivators attached to adjustable brackets D beneath a two-wheeled truck, substantially in the manner and for the purpose specified.

Third, in combination with adjustable brackets D the arrangement of the combined adjustable scorers  $\alpha \alpha$  on the frame  $z i$ , when constructed and applied in the manner and for the purpose specified, together with the use of the hoppers, crank and pulleys, all combined substantially in the manner shown and set forth.

**68,057.**—JAMES G. EDGEELL, Brooklyn, N. Y.—*Lubricator for Shafting.*—August 27, 1867.—The rotating plug has a side opening communicating alternately with the oil pipe leading to the close oil cup and with the journal. An axial opening connects the side opening with an air supply pipe.

*Claim.*—First, the plug C provided with an opening in its end to communicate with pipe F and a cup  $a$  to receive and discharge oil, as and for the purpose specified.

Second, the arrangement of the shaft G, with its screw thread E and pulley F, with the wheel D upon plug C, substantially as and for the purpose set forth.

**68,058.**—GEORGE B. FIELD, New York, N. Y.—*Ore Roasting Furnace.*—August 27, 1867.—The inclined ledge is made hollow for the introduction of steam or water and an opening is constructed through which the cavity of the ledge may be cleared from the outside of the rotating cylinder.

*Claim.*—The plate or shelf B made hollow for the admission of water or steam and composed of two parts  $b b'$  connected by the pipes  $c c'$ , when constructed and used substantially as and for the purpose specified.

Second, the orifices E E in hollow shelves used in the inside of revolving ore roasting furnaces, for the purpose of cleaning the internal chambers of the shelves, substantially as described.

**68,059.**—JOHN U. FIESTER, Winchester, Ohio.—*Shoe Fastener.*—August 27, 1867.—The clasp is formed of three plates so hinged together as to be held in a closed position by the strain upon the fastening.

*Claim.*—The double revolving concave hinge A A' and B, constructed and operating as described and for the purposes set forth.

**68,060.**—G. W. FOWLER, Jenner's Cross Roads, Pa.—*Churn.*—August 27, 1867.—The simultaneous, reversed motions of the dashers enforce a reactionary movement in the cream.

*Claim.*—A churn having two horizontal parallel dasher shafts provided with radial arms, arranged to strike in pairs alternately in the same plane, said shafts being provided with pinions operated by the gear wheel G, having teeth arranged on it both internally and externally, as shown and described.

**68,061.**—AARON M. FREELAND, New York, N. Y.—*Belt Shifting Device.*—August 27, 1867.—The pivoted levers, connecting by jointed rods with the rocking bar, simultaneously lift and shift the belts.

*Claim.*—The two belt shifting forks connected and pivoted to a swinging arm or sector for simultaneous joint operation, substantially as described, whereby, while the one belt is being moved on or off the fast pulley, the belt controlled by the other fork has but a slight motion, and is retained to its run on the loose pulley, essentially as herein set forth.

**68,062.**—GEORGE B. GARLINGHOUSE, North Madison, Ind.—*Baling Press.*—August 27, 1867.—The abutment head of the press box is adjustable. When operating as a beater the follower is operated by toggle arms. The arms are drawn up by a cord, which is tripped from its pulley to allow the said arms to descend. For completing the pressure, additional toggle arms are brought in operation. Both pairs of toggle arms are operated by a single rope in this latter operation. The lids of the box are balanced

by weights to assist in their opening. The passages in the heads for introduction of the hoops are recessed beneath to permit the passage of the arm of the operator, and the box bottom is grooved to guide the hoops from side to side beneath the bale.

*Claim.*—First, the abutment F, capable of being set forward in the box, and supported by strut X, in the desired combination with the beater E, and its described or equivalent accessories.

Second, the arrangement of gravitating toggle H H', I I', J K with the windlass Q U V W, and horizontally or, nearly horizontally moving beater E, substantially as set forth.

Third, in combination with the elements of the 2d clause, the auxiliary toggle H' I' J K L L', and sheaves M N, for the purpose explained.

Fourth, constructing the pressing heads of a bailing press with passages  $e f$ , of size large enough to admit either or both hands and arms to the bottom of said "passages," for the object stated.

Fifth, the provision of the beam 4, in combination with the hinged doors 1 and 2, and catch 5, and spring latch 7.

**68,063.**—LUTHER GIBBS, Fremont, Ohio.—*Lime Kiln.*—August 27, 1867.—The corresponding furnaces on opposite sides of the kiln are connected by a central fire chamber. An adjustable damper regulates the flue below.

*Claim.*—A kiln for burning lime, when constructed with two furnaces B B, and a central fire chamber D, in continuous line across the kiln, and with flues D' in the corners of the fire chamber, and with a kettle F of greater longitudinal measurement than the diameter of the cupola E, and furnished with three draw flues G G<sup>1</sup> G<sup>2</sup>, said parts being constructed and arranged for use in the manner set forth.

**68,064.**—A. W. GIFFORD, Worcester, Mass., assignor to E. A. BAGLEY and MOSES BAGLEY, same place.—*Milling Tool.*—August 27, 1867.—The milling tool is attached to the tail stock of the lathe and forced upon the end of the rod to be milled. The gauge plate can be moved to support different sizes of screws, the centres of the circular openings in the plate being at the same distance from the center of the gauge plate, give central support to arms of varying sizes. The cutting tool is adjusted by screws to cut a chip of the required size.

*Claim.*—First, a milling tool, constructed and operating substantially as set forth.

Second, the combination with the hollow shank A and head B of the gauge plate D, substantially as and for the purposes described.

Third, the combination with the head B of the swivel arm F and cutter E, substantially as and for the purpose set forth.

Fourth, the combination with the cutter E of the adjusting screw 4, arranged substantially as and for the purposes set forth.

Fifth, the combination with the cutter E and projections H' and J of the head B of the adjusting screws H and I I, substantially as and for the purposes set forth.

**68,065.**—S. I. and G. M. GILLHAM, Carlisle, Ill.—*Gang Plow.*—August 27, 1867.—The lever, operating on its pivoted pendant fulcrum, adjusts and raises the plows.

*Claim.*—The bars H H, embracing the beams D D, and operated by the lever G, arranged in combination with the frame A, in the manner substantially as and for the purposes set forth.

**68,066.**—H. B. GILLMAN and H. S. BEAMISH, Milford Mass.—*Paint Brush.*—August 27, 1867.—The bristles are confined in a conical case and are distended and tightened by the conical head projected by the screw on the handle.

*Claim.*—The combination and arrangement of the conical case  $a$  with the head  $b$  fastened in it, and handle A, screwing through it, and carrying the cone  $c$ , fastened to the handle, all as herein described.

**68,067.**—HENRY GRASS, Olney, Ill.—*Churn Dasher.*—August 27, 1867.—The inclined tubes on the outer side of the conical dasher convey air and cream to the central, downwardly-opening socket, and cause a jet therefrom.



*Claim.*—First, the combination of the foraminous conical dasher A with the tubes C C, substantially as and for the purpose specified.

Second, the tubes C C, extending from the bottom of the dasher to the socket B, and connected with the latter through the passages c c, substantially as described.

**68,068.**—JOHN C. HAEFELE, New York, N. Y.—*Meat Cutter.*—August 27, 1867.—The meat is cut by rocking knives that are actuated by a system of pivoted levers connecting with gearing that is operated by a hand crank.

*Claim.*—First, in a meat cutter, such as described, the method of pivoting or hinging the system of levers to the knives, at a point vertically above the said knives, and equidistant or thereabouts from the ends of the same, as and for the purposes described.

Second, the combination with one or more segmental knives of a system of levers pivoted to the said knives, at a central point vertically above the same, and hung in the frame of the machine in such manner that the levers immediately connected with the knives shall be parallel, or nearly so, with the surface of the block over which they move, as and for the purposes herein shown and set forth.

Third, the combination with the vibratory and rocking cutters of the lateral guides for maintaining the said cutters in the said plane, while in operation, as herein shown and described.

Fourth, the combination with the vibratory cutters, their actuating mechanism and lateral guides, arranged and operating as herein described, of a tub or block revolving on its center, substantially in the manner and for the purposes shown and specified.

Fifth, the combination with the vibratory cutters of the guides provided with recesses forming the pivotal points upon which the cutters turn at the end of each stroke, as and for the purposes set forth.

Sixth, in a meat cutter in which the cutters are of segmental form, and operate as described, the combination with the cutters and tub or block of mechanism, for vibrating the said cutters, and rotating the said block, in the manner described, so that the tub shall be rotated during the interval between the vibrations or strokes of the cutters, as and for the purposes set forth.

Seventh, the combination of the jawed reciprocating plate, and vibrating arm upon which it is mounted, with the shaft and cam for actuating the said plate, substantially in the manner and for the purposes specified.

Eighth, the combination of the reciprocating plate and pawls, and the ratchet and pinion operating together as described, with the meat tub or block, under the arrangement herein shown and specified.

**67,069.**—SMITH T. HARDING, Morrison, Ill.—*Compound for Preserving Wood.*—August 27, 1867.—Composed of calcined lime, 12 parts; arsenious acid, 4; chloride of sodium, 6; sulphate of lime, 12. Dissolve 1 pound of the above in 8 gallons of water, and immerse the wood for 10 days.

*Claim.*—A compound composed of the within-named ingredients, in or about the proportions as set forth, for the purpose, of preserving wood, substantially as herein described.

**68,070.**—SAMUEL HARPSTER, Center Hall, Pa.—*Corn Planter.*—August 27, 1867.—The side flanges, in connection with the bristles, form an enclosed chamber under the brush head, out of which the grain cannot be forced, as the bristles move the excess of grain from the seed cells, which move under and past the bristles to receive their charge and deliver to the seed duct, which delivers into the furrow behind the share.

*Claim.*—In combination with the brushes and flanged brush head, the slide H, having a central and side holes counter sunk to prevent the grains from wedging therein, substantially as described.

Also, in combination with the brush head and seed slide, as described, the furrow openers M N N and seed duct K, and coverers O O, arranged and operating as and for the purpose described and represented.

**68,071.**—D. FRANK HARTFORD, Boston, Mass., assignor to himself and EDMUND TARBELL, South

Boston, Mass.—*Bow Drill Stock.*—August 27, 1867.—The spindle of the bow drill stock combines with two string pulleys, inducing the reciprocating motion of the bow, and causing the drill to rotate in one direction only.

*Claim.*—The combination of the cord pulleys A A', pawls B B, ratchet C, with the mandrel D and handle H, when the whole is constructed as described and for the purpose set forth.

**68,072.**—L. W. HARWOOD, Troy, N. Y., assignor to FULLER WARREN & CO., same place.—*Cooking Stove.*—August 27, 1867.—Beneath the suspended and movable fire basket and dumping grate is an ash drawer.

*Claim.*—The suspended fire box, having an open front space, and with the oven space extending beneath and up behind it, in combination with the dumping grate and ash pit, the whole arranged to operate as specified for the purpose set forth.

**68,073.**—J. R. HAYNES, Newport, Ky., and A. F. WORTHINGTON, Cincinnati, Ohio, assignors to SMITH & WORTHINGTON, Cincinnati, Ohio.—*Medicine Case.*—August 27, 1867.—The bottles are attached by loops to slips which slide within the case; two slips are hinged together, and hinged flaps support the bottles in each row.

*Claim.*—First, the provision in a medicine case of one or more sliding and folding vial racks, substantially as set forth.

Second, the provision upon such racks of the ledges F F', for the purpose set forth.

**68,074.**—EDWARD HEALY, Chicago, Ill.—*Mechanical Movement for Working Saws, &c.*—August 27, 1867.—The system of jointed levers transmit increased velocity to the saw shaft and are extended by a rock shaft and contracted by springs.

*Claim.*—First, the combination of a system of levers H with a flexible connection J, substantially as and for the purpose set forth.

Second, the arrangement of the levers H, rock shaft I, flexible connections J, and springs K, substantially as and for the purpose set forth.

**68,075.**—JOSIAH D. HEEBNER, Norritonville, Pa., assignor to himself, D. S. HEEBNER, and I. S. HEEBNER, same place.—*Horse Rake.*—August 27, 1867.—The teeth are raised by the forward movement of a lever, which brings the point of a tripping bar against the ground to still further raise the teeth and discharge the hay. A backward movement of the lever frees the tripping pole and restores the teeth to raking position.

*Claim.*—First, the combination and arrangement of the tripping-pole F, pivoted between the extremities, with the arm G, and the horizontal rod I, substantially as herein shown and described.

Second, the lever M, having a shoulder engaging at the proper time, with the carriage K, or the rod I, substantially as and for the purpose specified.

**68,076.**—WILLIAM PITT HOFFMAN, San Francisco, Cal.—*Window Blind.*—August 27, 1867.—The blind is composed of angular troughs attached one above the other and partly filled with water, for arresting the dust as it enters the window.

*Claim.*—The window blind and anti-duster, composed of frame A, V-shaped troughs B B, with straight or concave sides, and having the openings a a, the partitions b b, and tubes E G, the latter for the purpose of filling and emptying the troughs, substantially as and for the purpose set forth.

**68,077.**—SAMUEL HOKE, Mount Pleasant Township, Md.—*Machine for Distributing Fertilizers.*—August 27, 1867.—The rotary disks have upwardly projecting claws, which operate to discharge the fertilizer from the hopper.

*Claim.*—The shape and construction of the stirrers H, with their lower wheels G, operating in eccentric apertures B, when arranged and operated as herein described and for the purposes set forth.

**68,078.**—ZADOK HOWE, Lowell, Mich.—*Bed Bottom.*—August 27, 1867.—Explained by the claim and illustration.

*Claim.*—Suspending the slats C C, at each end, in



the swings *e e*, which are secured to the foot and head rails of the bed, as and for the purpose set forth.

**68,079.**—BENJAMIN F. HUGHSON, Cold Spring, N. Y.—*Knife and Fork Cleaner*.—August 27, 1867.—The disks are of felt or other proper material and are rotated within a box containing an abradant, which enters between the disks through transverse holes.

*Claim.*—First, the several series of transverse holes *d*, formed in the disks *D*, for the reception of the scouring material, substantially as herein set forth.

Second, the two central disks *g g*, having their peripheries extended beyond the circumference of the main portion of the scouring wheel, substantially as herein set forth for the purpose specified.

Third, the combination with the scouring wheel constructed as set forth of the trough *A*, substantially as and for the purpose specified.

**68,080.**—ELIAS S. HUTCHINSON, Baltimore, Md.—*Check Valve for Liquid Metres*.—August 27, 1867.—A thermo-dynamic valve, governed by an expansible rod, is applied to the pump pipe, which closes the pipe when the apparatus is in its cold and inoperative condition.

*Claim.*—The application to a pump pipe of a thermo-dynamic valve, substantially as described.

**68,081.**—ELIAS S. HUTCHINSON, Baltimore, Md.—*Liquid and Spirit Meter*.—August 27, 1867.—The discharge valves of the measuring vessels are operated by an oscillating lever actuated by a double-ended tilting trough, into which the said vessels overflow. The hydrometer acts on a disk to move it vertically on an inclined plate to regulate the movement of a register disk, each time one of the measuring chambers is discharged. An expansible metallic rod within the liquor, when expanded by heat, operates another inclined plate, through which the aforesaid disk is operated to compensate on the register for difference of temperature.

*Claim.*—First, the provision in a liquid meter of the plate *H*<sup>3</sup>, and disk *I*<sup>1</sup>, or their equivalents, the same forming a means for compensating for variations in density, substantially as described.

Second, the provision in a liquid meter of the plate *H*<sup>3</sup>, and expansible rod *H*<sup>9</sup>, or their equivalents, the same forming a means for compensation for variations in temperature, substantially as set forth.

Third, the combination of the oscillating valve *A*, support *H H'*, compensating plate *H*<sup>2</sup>, and disk *I*<sup>1</sup>, plate *h*<sup>6</sup>, pin *j*, wheels or disks *J J'*, shaft *J*<sup>2</sup>, and clutch *K*, or their equivalents, all substantially as herein described and represented.

Fourth, the combination with the valve *B*<sup>2</sup> *B*<sup>3</sup>, of the levers *b b*, and oscillating arm *A'*, substantially as described and for the purpose specified.

Fifth, the combination with the oscillating valve *A*, and chambers *B B'*, of the tilting trough *F F'*, arranged and operating substantially as described.

Sixth, in spirit meters, a filter or screen to permit the passage of mash, beer, or solid matter into the meter, substantially as described.

**68,082.**—J. P. R. JAMES, Pepin, Minn.—*Hand Catch*.—August 27, 1867.—Intended as a connection between portions of a broken chain or for various other purposes. The catch is pivoted to one end of the projections and one corner enters a detent notch in the other. A spring holds it to position.

*Claim.*—The body *A*, constructed as described, and provided with the catches *B B* and spring *C*, substantially as and for the purpose specified.

**68,083.**—F. A. JAMESON and CYRUS W. RIPLEY, Kingston, Mass.—*Lever for Windlass*.—August 27, 1867.—The sliding saddles are made to rest on the upper curved surface of the rocking beam, to vary the leverage of the pawl boxes. Upper and lower rods and sliding connections run in grooved ways, and by means of the lower rods transmit motion to the pawl boxes, giving a more direct application of the power.

*Claim.*—First, the combination of the curved beam *D*, adjustable or sliding saddles *F*, and screw *G*, having right and left handed threads, all for operation together, substantially as and for the purpose specified.

Second, the combination with the beam *D*, sliding saddle *F*, and screw *G*, of the wheel *K*, crank *m*, and double pawl *l*, with the reversible tail *n*, or the equivalent of these devices, for operation of the saddles, without unshipping the brakes, essentially as specified.

Third, in combination with the beam *D*, and sliding saddles *F*, the traveler *H* or *H'*, and upper and lower rods *f g*, substantially as herein set forth.

**68,084.**—CORNELIUS KARK, Huntingdon, Ohio.—*Gate*.—August 27, 1867.—The gate is mounted on rollers and slides endways. It is actuated by a weighted bar, which is raised by a hand lever, and engages on a catch of the carrier which is connected by a chain to the pulley to which the operating levers of the gate are jointed. The weighted lever acts by gravity to open or close the gate.

*Claim.*—First, the carriers *E E'*, provided with cams *G G'*, and shoulders *H H'*, in combination with the rope *J*, and pulley *I*, as and for the purpose set forth.

Second, the pulley *I*, arm *K*, and link *K'*, as arranged in combination with the gate *B*, for the purpose and in the manner as described.

Third, the levers *L* and *M*, weighted lever *N'*, and rod *a*, arranged in combination with the carriers *E E'*, and pulley *I*, when operated in the manner and for the purpose set forth.

**68,085.**—SILAS R. KENYON, Greenville, R. I., assignor to himself and MILTON C. JEFFERS, New York, N. Y.—*Machine for Picking and Husking Corn*.—August 27, 1867.—The rollers grasp the stalks and strip them from the ears that fall into a hopper, shaped so as to direct the ears upon the husking rollers, over which they travel endwise as the husk is stripped off.

*Claim.*—First, forming the hopper with an inclined bottom, having a central elevated portion that forms two troughs, on line with the pairs of husking rollers *f* and *z*, *h* and *i*, so as to insure the delivery of the ears endwise to such pairs of husking rollers, as specified.

Second, placing the rollers *f* and *h* higher than the rollers *g* and *i*, so as to insure the rotation of the ear as they pass endwise along such pairs of rollers as set forth.

Third, the revolving bar *K*, applied above the rollers *f* and *h*, to prevent ears of corn passing down the space between these rollers and escaping unhusked, as set forth.

Fourth, a series of inclined husking rollers, arranged substantially as shown, and formed with elastic grooved surfaces to one or both rollers of each pair, for the purposes set forth.

Fifth, the adjustable detaining strips *n*, applied in the manner specified, in combination with the pairs of inclined husking rollers, for the purposes set forth.

Sixth, the stripping bars or knives *q*, fitted adjustably as set forth, in combination with the pairs of husking rollers, arranged as set forth.

Seventh, the combination of the guards *o*, inclined husking rollers, hopper boards *m*, and bar *k*, to insure the proper position of the ear in passing endwise down upon the inclined husking rollers, as set forth.

**68,086.**—JOHN H. KEYSER, New York, N. Y.—*Foot Rest for Stoves*.—August 27, 1867.—The foot rest has a horizontal annular net work which passes between the upper and under sections of the stove, and has a short supporting cylinder within the stove, serving to strengthen it and break the joint between the sections.

*Claim.*—An open work foot rest, which is constructed with annular tapering flanges, as a new and improved article of manufacture.

**68,087.**—EDWARD E. KILBOURN, New Brunswick, N. J.—*Uniting Edges of Hosiery Goods*.—August 27, 1867.—The selvedge edges of hosiery goods are united by a chain, alternating, loop-attachment stitch.

*Claim.*—The improved connection of hosiery goods, consisting of the combination of the loops of the adjacent abutting edges of the article, by means of the chain stitch hereinbefore described.



**68,088.**—THOMAS W. KNOX, New York, N. Y.—*Transmitting Plans of Battle Fields by Telegraph.*—August 27, 1867.—Blanks are ready prepared, of rectangular form, and divided rectangularly into numbered spaces. On the blanks the topography of the country may be mapped out, and the disposition and movements of the troops noted.

*Claim.*—Transmitting or giving plans of battle fields, positions of troops, and topographical and other features of a country by means of rectangular or other divisions marked on blanks of paper or other material, and numbered in any agreed order only, as above set forth.

**68,089.**—PHILIPPE KOCH, New Haven, Conn.—*Wooden Pavement.*—August 27, 1867.—The blocks of wood are cut across the grain and beveled at the bottom to facilitate drainage. They have channels in the top, leaving rectangular projections. The channels are filled with fine gravel.

*Claim.*—The construction and arrangement of wooden paving blocks, in the manner and for the purpose described and set forth.

**68,090.**—C. J. KOMAR, Willoughby, Ohio.—*Step and Extension Ladder.*—August 27, 1867.—The extension sides run in grooves in the side pieces of the step-ladder, and are raised by a windlass formed with the bottom round of the ladder, which, passing round the pulleys, connects with the sides of the extension ladder below.

*Claim.*—First, the side rails A of the lower section, provided with longitudinal grooves B B', pulleys D D', opening C, and tongue T', and the side rails K of the upper section, provided with longitudinal grooves L L', roller N, openings M, tongue T, and hole O, all arranged and operating in combination with the cord S and windlass F, in the manner and for the purpose specified.

Second, the bars H H', located and secured in the braces G, in combination with the notches P, of the side rails K, operating as and for the purpose set forth.

**68,091.**—LEWIS LARCHAR, Utica, N. Y.—*Corn Planter.*—August 27, 1867.—The opener teeth have a lower portion forming the seed furrow, and an upper part to turn aside the clods. These openers are followed by curved covering teeth. The seed slide is actuated by a cam bar, which is moved in one direction by pins on a drum upon the axle, and retracted by a spring.

*Claim.*—First, the tooth I, constructed and operating substantially as described, for the uses and purposes mentioned.

Second, the said tooth I, and the teeth K K, one or more, in combination, for the uses and purposes mentioned.

Third, the adjustment of the wheels C C, and the hoppers D D, relative to each other, as described, by means of which the rows will be at equal distances apart, as described.

Fourth, the slide D<sup>4</sup>, and the lever E, and spring D<sup>6</sup>, and cam lever F, constructed and operating in combination, substantially as described, and for the uses and purposes mentioned.

Fifth, the lever H in combination with the pin or pins H<sup>2</sup> on the drum C<sup>2</sup>, substantially as described, and for the uses and purposes mentioned.

**68,092.**—THOMAS C. LIPPINCOTT, Philadelphia, Pa.—*Cord Tightener for Curtains.*—August 27, 1867.—The cord hook is pivoted in the slide bar, and has a projection engaging a rack on the bracket plate.

*Claim.*—The combination of the sliding bar A, constructed substantially as described, with the rack B, by means of the tooth b of the bar, and the recess teeth c of the rack, substantially as described, and for the purpose specified.

**68,093.**—C. L. LOCHMAN, Carlisle, Pa.—*Cork Press.*—August 27, 1867.—The cork is placed between the serrated surfaces of the concave and the eccentric cam, and pressed to a less or greater extent by a partial rotation of the latter.

*Claim.*—A cork press with one or both jaws made to vibrate, either straight or curved, so that a rotary and squeezing effect is given to a bottle cork at the same time, substantially as specified.

**68,094.**—IRA MANNING, Philadelphia, Pa.—*Channeling and Beveling Machine.*—August 27, 1867.—The sole rests upon the roller and its edge against the guide; it is then pressed forward against the knives. One of the latter is presented obliquely upon the surface of the sole and cuts the channel; the other has an oblique (nearly opposite) presentation and slices off the upper edge of the sole, leaving it beveled.

*Claim.*—First, the combination and arrangement of a channeling knife and a beveling knife in the same machine, whereby a sole is channeled and beveled at the same time, as shown.

Second, arranging the channeling and beveling knives so that either can be removed, whereby a sole can either be channeled or beveled, as shown.

Third, the barrel I, when constructed, arranged, and operating substantially as shown and described.

Fourth, the adjusting plate C, the friction roller B, and the guide e, as shown and described.

Fifth, the knife-holder D and arc G, as shown and described.

**68,095.**—HUGH W. MATTHEWS, Chicago, Ill.—*Threshing Machine and Separator.*—August 27, 1867.—The straw and grain fall from the threshing concave on to the longitudinally slatted floor. The rake teeth are presented upwardly and their heads are attached to cranks on revolving shafts so that they protrude between the slats to give a forward motion to the straw and then recede below the rack, giving intermittent impulses to the straw. The descending grain is forwarded to the discharge by a screw conveyor.

*Claim.*—The combination of the rack G G G, rakes E, and conveyor I, when constructed substantially as and for the purpose set forth.

**68,096.**—MORRIS MATSON, New York, N. Y.—*Vaginal Irrigator.*—August 27, 1867.—Explained by the claim and illustration.

*Claim.*—An instrument for washing and cleansing the vagina and for treating diseases of that organ and of the womb, and having an outlet perforated or open cylinder, and within such cylinder an injecting tube for a spray or jet, substantially as and for the purposes set forth.

**68,097.**—JOHN MCKENZIE, Portland, Maine.—*Churn.*—August 27, 1867.—The shaft engages in and actuates the hollow drum to which the inclined fingers and roller are attached. Ventilators open into the supplementary chamber that attaches to the top of the churn.

*Claim.*—First, the dasher when composed of the hollow drum m, inclined fingers n, and adjustable washing roller o, all operated by the removable shaft a, as and for the purposes specified.

Second, the curved ventilating cover E, constructed with the parts and applied as herein described and for the purposes set forth.

**68,098.**—E. D. MERRIAM and S. ALDRICH, La Grange, Ohio.—*Bed Bottom Spring.*—August 27, 1867.—The slats are hinged to the elastic bands that are secured with rods to the staples in the rails of the bedstead.

*Claim.*—The clamp B, attached to the slat A, and enclosing the rod C, in combination with the looped hinge D, elastic band E, rod H, and staples G, fastened to the rail F, when said several parts are respectively constructed and arranged for use substantially as and for the purpose set forth.

**68,099.**—WM. H. and GEORGE W. MILLER, West Meriden, Conn.—*Cartridge Ejector for Breech-Loading Fire-arms.*—August 27, 1867.—The ejector is placed loosely on the pivot pin of the swinging breech block, and receives a quick blow from a rocking lever after the carriage case is started, so as to throw the latter clear of the arm.

*Claim.*—In combination with a hinged and swinging breech-block, the accelerating lever m, on said breech block, the ejector d, on the pivot pin of the hinge, for the purpose of giving a quick impulse to the ejector, and through it to the cartridge case, to throw the latter out of the gun, substantially as described.



**68,100.**—MORTIMER B. MILLS, East Mendon, N. Y.—*Churn*.—August 27, 1867.—The dashers hang pivoted near the sides of the box and engage with the pendent rods of the double action lever by which they are actuated.

*Claim.*—The dashers D E, Fig. 2, when made so as to be actuated by the levers C C, Fig. 1, and connections, E E, when arranged within the box A, as and for the purpose set forth.

**68,101.**—SIMEON MILLS, Madison, Wis.—*Machine for Grinding Peat*.—August 27, 1867.—The feed rollers in the bottom of the hopper furnish the peat to the spirally-fluted conical cylinders that grind it.

*Claim.*—First, the spirally-fluted cylinders of rollers E, whether conical or straight, so constructed and arranged that both are propelled in rotary manner by the application of power to one without gearing, substantially as described and for the purposes set forth.

Second, the grooved feed roller *a b*, in combination with the fluted rollers E, when constructed and arranged to operate as described and for the purposes set forth.

Third, the spirally-fluted rollers E, in combination with each other and with the grooved feed rollers *a b*, and mandrel *d*, when arranged to operate in a close-fitting case substantially as described and for the purposes set forth.

**68,102.**—GILPIN MOORE, Moline, Ill., assignor to himself and DEERE & Co., same place.—*Plow*.—August 27, 1867.—The shape of the mold board is determined by the relative angle of the cutting edge of the share to the land-side, in connection with the angle of the land-side to the bottom of the plow, so as to correspond to the convexity of the under surface of the furrow slice.

*Claim.*—First, the plan or method herein described of constructing the mold-boards of plows.

Second, a plow having its mold board constructed of a form corresponding with the form of the under surface of the furrow slice at the instant it is severed from the earth, substantially as described.

**68,103.**—WILLIAM H. NASH, Reading, Mass.—*Frame for Window Screens*.—August 27, 1867.—The metallic corners attach the side bars of the frame.

*Claim.*—As a new article of manufacture, a frame for a window screen, when constructed of the bars D D' D'' D''', and the corner pieces A, made substantially as described.

**68,104.**—EDWARD NEWLON, Monmouth, Ill.—*Cultivator*.—August 27, 1867.—The tongue is attached to the horizontal portions of two arched strips, whose pendent ends give vertically adjustable attachment for the sides of the frame. The plow beams are connected to the frame by universal joints.

*Claim.*—The vertical adjustment of beams *y y*, in combination with the frame, constructed as described and for the purpose set forth, in connection with the mode of attaching the draft.

**68,105.**—GEORGE W. NOYES, Norwich, Conn.—*Car Coupling*.—August 27, 1867.—When the cars come together the link strikes the spring-head and the bolt drops into engagement. The cars are uncoupled by raising the angular lever that by its connections throws up the coupling bolt.

*Claim.*—The adjustable head C and pin E, with its devices L and M, for operating the same, all constructed and arranged as herein described and for the purposes set forth.

**68,106.**—J. D. NUMAN, J. T. WILKINSON, and E. W. COOK, Lockport, N. Y., assignors to J. D. NUMAN, JAMES T. WILKINSON, JAMES T. WILKINSON, JR., N. B. CHASE, and J. L. ASHLEY.—*Cement for Roofing*.—August 27, 1867.—Composed of ground coke, 2 barrels; clay, 1 barrel; alum, 10 pounds; ground anthracite coal,  $\frac{1}{2}$  barrel; sulphur, 1 pound; coal tar, 1 barrel.

*Claim.*—The aforesaid cement for roofing or other purposes, composed of the aforesaid substances or materials, or substantially the same, and which will produce the same intended effect.

**68,107.**—JOHN PEPPER, Lake Village, N. H.—*Knitting Machine*.—August 27, 1867.—The slide regulates an interior cam, which, when lowered, depresses the needles and prevents the casting off of the loops, so that with one thread so arranged common ribbed work is knit. When the cam is raised and another thread thrown in, plaited ribbed work is knit. The spur wheel actuates a cam for regulating the length and tension of stitch.

*Claim.*—First, in combination with an interior pivoted cam or switch, a slide or its mechanical equivalent, for raising or lowering said cam or switch, and thus changing the cam groove and lowering or raising the needles, for changing the machine from common ribbed to plaited ribbed work, or vice versa, substantially as described.

Second, the revolving pin wheel *m*, in combination with a stationary pin or pins, for the purpose of moving an interior cam or switch, and changing the traverse of the needles at that point for changing the machine from tighter to looser knitting, or vice versa, substantially as herein described.

**68,108.**—FRANK J. PLUMMER, Worcester, Mass., assignor to R. BALL, same place.—*Clutch Shipper*.—August 27, 1867.—A tongue on the clasp of the moving clutch hub enters an inclined slot in the sliding piece to move the hub by means of the lever.

*Claim.*—First, the combination with the projection E of the box B and tongue *c* of the slotted slide F and cap *e*, substantially as and for the purposes as set forth.

Second, the combination with frame A, double slotted or grooved slide piece F, clasp G, clutch hub L of the box B having a flange D and projections E and 4 4, arranged and combined together for use substantially as set forth.

**68,109.**—ROGER W. PORTER, Nashua, N. H.—*Pruning Knife, Hook, and Saw*.—August 27, 1867.—The steel plate is formed into a pruning hook, knife, and chisel at one end and a saw at the other and turns on a pivot in the handle to which it is secured by a set screw.

*Claim.*—Pruning hook, knife, chisel, and saw, constructed and arranged as shown, in combination.

**68,110.**—JOHN PRUTZMAN, Hancock county, Ill.—*Machine for Pulverizing the Earth Preparatory to Planting*.—August 27, 1867.—The knives and various shaped teeth are regulated by the lever and divide the clods, the roller following pulverizing the same.

*Claim.*—The combination of knives, shovels, and teeth, substantially as set forth, and secured in an inner frame which can be raised or depressed together with a large shovel or marker for laying off the ground and detent *o*, substantially as and for the purpose set forth.

**68,111.**—J. C. RAMSEY, Le Roy, Ohio, assignor to himself and S. M. ENGLAND, same place.—*Feeding Racks for Stock*.—August 27, 1867.—The frame of the hinged cover has slats attached transversely across it. The loose bottom is raised by spiral springs as the rack empties or is fastened by the rotation of the pivoted bar whose bolt engages in a staple secured to the bottom.

*Claim.*—The combination and arrangement of the box A, rack B, springs E, slide I, adjustable bottom D', and loop or staple H, for the purpose and in the manner herein set forth.

**68,112.**—JOHN H. RHODES, Brooklyn, N. Y.—*Adjustable Pipe-joints*.—August 27, 1867.—The zonal enlargement of the spigot corresponds with the bell mouth of the adjoining section in which a recess is formed for packing.

*Claim.*—A pipe joint constructed of a hard-metal spigot B and hard-metal bell D, both of shape corresponding to the segment of a sphere, in combination with the soft metal packing E, arranged as a fixture in the mouth of the bell and resting at its inner end or edge against a projection or stop S, substantially as and for the purpose or purposes as herein set forth.

**68,113.**—W. T. RICHARDS, Bridgeport, Conn.—*Making the Eye of Elliptic Springs*.—August 27, 1867.—A pair of dies are fitted to receive the heated end of the steel bar when by the operation of the cam



on the lever the end of the bar is bent and cut at an incline leaving the scarp edge in a condition to be inserted into the other dies. When reinserted and held in position by a cam, another cam actuates the forward movement of the ram which finishes the formation of the eye.

*Claim.*—First, the combination of the dies *g i* and *j* with the lever *D*, or its equivalent, when they are constructed, arranged, and fitted to scarf the end and partially form the eye, substantially as herein described.

Second, the combination of the dies *n* and *r* with the head of the ram *p* when the head is provided with a tongue *o*, and the die *n* has a slot or recess *m* to receive the tongue and the whole is fitted to produce the result of finishing the eye, substantially as herein described.

**68,114.**—ANTON ROMANN and JOHN PETERKA, Wilton, Iowa.—*Combined Plow and Cultivator.*—August 27, 1867.—The draft is adjusted by the coupling bolt and by the supporting rods that connect with the wheels which run between the shovels in the rear gang.

*Claim.*—The form and construction of the cultivator and harrow combined, when arranged, adjusted, and operated with the bolt *F*, beam *C*, and axle *M*, as attached to the frame or bars *G*, with the regulating wheels *L*, as herein described and for the purposes set forth.

**68,115.**—JOHN S. ROSS, Hamilton county, Iowa.—*Steam Sled.*—August 27, 1867.—The sled is moved by point ended radial arms on a rotating wheel and has two pairs of runners with guide knives beneath. The forward runner frame admits of oscillation to guide the sled.

*Claim.*—The arrangement and combination of the adjustable knives *I* with the runners *A* when operated by the wheel *P*, as herein described and for the purposes set forth.

**68,116.**—FRANÇOIS LOUIS ROUX, Toulon, France.—*Sheathing of Ship's Bottoms.*—August 27, 1867; antedated January 23, 1866.—The portions of the hull to be heated are cleaned of all traces of oxide of iron. A covering is next put on of a suitable insulating plastic adherent and elastic material that is unalterable under the influence of salt water. The copper sheathing is then attached with copper bolts and fastenings.

*Claim.*—The application of copper sheathing to ships or vessels constructed or plated with iron, in combination with interposed layers of insulating material, in manner and for the purposes substantially as herein set forth and represented in Figs. 17 to 24 of the annexed drawings.

**68,117.**—CHRISTOPHER E. RYMES, Somerville, Mass.—*Press.*—August 27, 1867.—The head of the piston has a projection in the form of a frusto-conical pin extending up in the centralizing socket formed in the bottom of the shallow pan. The pan has projections that engage with the drum case above, centralizing it, and insuring a clear channel beneath. The plunger is supported by an arm to turn on its center, enabling it to turn directly back from the drum as circumstances may require, by which it is removed from the drum to facilitate the handling of the material to be pressed.

*Claim.*—First, the improved hydraulic press constructed with the plunger so affixed to its frame as to be capable of being moved laterally with respect to its drum and piston, substantially as and for the purpose specified.

Second, the combination of the centralizing pin and cavity, or the equivalent thereof with the piston and discharging pan of the hydraulic press.

Third, the discharging pan as made with the abutments arranged within it, as and for the purpose specified.

**68,118.**—S. C. SALISBURY, New York, N. Y.—*Converting Iron into Steel.*—August 27, 1867.—The fluid metal from the furnace is first subjected to the action of steam or oxygen and hydrogen very highly heated and under pressure, and afterward to the same in combination with hydrocarbon.

*Claim.*—Converting iron into steel, while the for-

mer is in a liquid state, and it is delivered from the furnace in which the ores are reduced by the use and application to or passing through such liquid iron a blast of steam or hydrogen and oxygen heated to a temperature of from 700° to 800° Fahrenheit, or thereabout, in combination first with an air blast and afterward with carbon gas free from or obtained from hydrocarbons free from sulphur, phosphorus, ammonia, &c., and either with or without manganese.

**68,119.**—S. C. SALISBURY, New York, N. Y.—*Apparatus for Supplying Gases to Furnaces.*—August 27, 1867.—The steam or water is admitted to the generator and heated to 800°, passing thence it is associated with hydrocarbon vapor for use in acting upon a mass of fluid iron.

*Claim.*—The combination of the generator *A* and exhaust chamber or mixer *C*, with the tuyere *E*, or its equivalent, for generating and heating, mixing, and supplying to blast or other furnaces, hydrogen and oxygen gases or their equivalent, and carbon gas or other gases in connection with the air blast, for the purposes set forth.

**68,120.**—P. H. SCHUYLER, Lyme, Ohio.—*Car Coupling.*—August 27, 1867.—The spring coupling pin oscillates on a shaft, and is raised by the contact of the entering link springing down again into coupling position. The pin may be held raised by the detent dog, which is released by pulling on the cord.

*Claim.*—First, the lever *C*, dog *E*, spring *a*, and shaft *D'*, arranged and operating as and for the purpose set forth.

Second, the arm *I*, shaft *D'*, spring *a*, in combination with the link *F*, as and for the purpose set forth.

**68,121.**—C. E. SCHWIND, New York, N. Y.—*Carriage Hinge.*—August 27, 1867.—The elbow of the moving leaf moves freely in the opening of the other portion and by springing down clear of a shoulder on the latter the door and movable leaf may be detached from the casing.

*Claim.*—The detachable piece or slide *B* in combination with the two parts *A C*, substantially as and for the purpose specified.

**68,122.**—BENJAMIN SCOTT, New Brighton, Pa.—*Railroad Rail Joint.*—August 27, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the two rigid parts *B B* of a divided clamp joint, constructed with jaws *b b* fitting closely around the base and neck of the rails and downwardly projecting flanges *a a*, meeting at their lower edges *D* and beveled upward to form a space *i* between them, when used in connection with bolts *g* passed through the flanges *a a* above the fulcrum point *D*, all as herein shown and described and for the purposes specified.

Second, in combination with the above the block of hard wood *E* fitting the angle between the flange and body of the clamps to facilitate the working of the nuts from above, and to obviate the jar and thereby prevent the unscrewing of the nuts.

**68,123.**—M. SCRANNAGE, W. SCRANNAGE, and W. H. BATE, Boston, Mass.—*Swing Nose Basin Faucet.*—August 27, 1867.—The tube answers the four-fold purpose of handle, plug, cap, and outlet. The hub is screwed and packed upon the stand pipe, upon whose top its valve is compressed to close the outlet.

*Claim.*—A swing-nose basin faucet, when the several parts *A B E O F* and *H* thereof are constructed and arranged substantially as described and for the purpose set forth.

**68,124.**—W. A. Sisson, Sheffield, Ill.—*Wheel Cultivator.*—August 27, 1867.—Explained by the claims and illustration.

*Claim.*—First, a wheel cultivator, constructed so that the draft power shall be applied direct to the shovel frame, and the driver's seat mounted upon the carriage frame, which is attached to the shovel frame at its forward end by a loose connection, which permits said carriage frame to rise and fall with the undulations of the ground in any direction without affecting the operation of the shovel frame.

Second, the friction rollers *x x* at the forward ends



of the carriage frame, in combination with the loops H H, substantially as and for the purpose set forth.

Third, the perforated plates P P, in combination with the legs k k of the driver's seat, fitted so as to be inserted into said perforations for the purpose of adjustment, as set forth.

Fourth, the handles O O at the sides of the shovel frame to enable the driver to raise said frame and free the shovels from the ground.

**68,125.**—A. B. SMITH, Clinton, Pa.—*Sorghum Sugar Evaporator*.—August 27, 1867.—Over each of the furnaces are two pans, those of one furnace being higher than those of the other, and one pan of each set being higher than its fellow. Connecting pipes bring them all into a series.

*Claim.*—First, the arrangement of the transferring pipes a b c, in connection with the evaporating pans, so as to draw the sirup from the middle thereof, or where the greater ebullition takes place therein, for the purpose herein specified.

Second, the adjustable transferring pipe b, arranged substantially as and for the purpose herein set forth.

Third, the valves f h, applied to the pipes a c, for the purpose herein set forth.

Fourth, the combination and arrangement of the filtering pan E and pipe b, substantially as herein specified.

**68,126.**—JOHN SNIVELY, Williamsburg, Pa.—*Chimney Top*.—August 27, 1867.—The curved deflecting guard plate is presented toward the wind by the action of the wind on the vane.

*Claim.*—The combination of the slightly convex cover A, when fixed within the top of a chimney, with the vertical shaft or spindle G, the arm D, vane F and the screen E, all constructed, combined, and arranged substantially as and for the purpose specified.

**68,127.**—ELIHU SPENCER, Elizabeth, N. J.—*Combined Water and Force Pump*.—August 27, 1867.—The water meter, the subject of letters patent to Spencer and Meyer, June 12, 1866, No. 55,547 is combined with a force pump to indicate the amount of water elevated by the latter.

*Claim.*—The attachment of the force pumps a a to the water meter, acting and operating in combination with each other, substantially as and for the purpose specified and set forth.

**68,128.**—JOSEPH A. TALPEY, Somerville, Mass., assignor to himself and MELLE BRAY, Boston, Mass.—*Wrench*.—August 27, 1867.—The wrench has a rectangular and an inclined pair of jaws for ready application to nuts in various positions.

*Claim.*—The wrench herein described, provided with two sets of jaws, the one rectangular with respect to the shank of the said wrench, the other sloping or at an inclination to the same, as and for the purpose herein shown and set forth.

**68,129.**—HENRY K. TAYLOR, London, England.—*Indicator for Water Closets*.—August 27, 1867; antedated April 20, 1865.—The indicator is so connected to the fastening that when the door is fastened the appropriate notice shall appear, but when the place is unoccupied a different notice shall be seen.

*Claim.*—The combination with the latch bolt or fastening to the door of an indicator made visible from the exterior by the action of the fastening, substantially as and for the purpose or purposes herein set forth.

**68,130.**—HENRY T. TICHENOR, Fort Branch, Ind.—*Axle*.—August 27, 1867.—The wearing surfaces of the axle are protected by the skeins, bands, and plate on the tip to which the cap fits.

*Claim.*—The combination of the skeins a a, plate z, bands b b, collar E and cap D with pin d, when arranged and used with axle and hub in the manner and for the purposes specified.

**68,131.**—MIRON G. TOUSLEY, Fulton, Ill., assignor to ANDREW and JOHN P. CHAISER, Cordova, Ill.—*Snout Ring for Swine*.—August 27, 1867.—The angularly bent bolt is inserted in the snout secured by a nut.

*Claim.*—The hook or angle combining the lever C,

with its means of attachment A, when constructed and used substantially in the manner and for the purposes set forth.

**68,132.**—SAMUEL W. TYLER, Troy, N. Y.—*Machine for Pulling Flax*.—August 27, 1867.—The flax passes between a series of dividing points and is seized by the endless rubber belts which are so inclined from the horizontal as to draw the flax from the ground and deposit it on the platform.

*Claim.*—For harvesting flax and other crops which require pulling from the ground, pullers which have traveling movement of their own and are made elastic and pliable, or yielding, on their impinging or grasping surfaces, by the use of india-rubber, gutta-percha, or other suitably elastic material, for the purposes substantially as set forth.

**68,133.**—RICHARD VOSE, New York, N. Y.—*Car Spring*.—August 27, 1867.—The spring bar has straight edges, but is corrugated between the edges. It is formed into a spiral volute.

*Claim.*—A volute or spirally coiled spring formed of a metallic bar or strip, transversely crimped or corrugated, substantially in the manner herein set forth.

**68,134.**—RICHARD VOSE, New York, N. Y.—*Car Spring*.—August 27, 1867.—The bar has thick edges and is formed into a volute on which the strain acts in the direction of its axis.

*Claim.*—First, a volute spring so constructed as that its top and base shall be in horizontal or parallel planes, and its inner coil be uniform in width with those succeeding it, substantially as herein described.

Second, a volute spring constructed of a metallic bar gradually increasing in thickness outwardly from its center to its edges throughout its length, substantially in the manner herein set forth.

**68,135.**—OSCAR WASSERMANN, Call, Prussia.—*Refining Lead*.—August 27, 1867.—The desilvered lead is melted in iron pans. The surface is covered with chloride of lead and the temperature increased. The protochloride of zinc resulting is skimmed off and more chloride of lead added, which results in the same way, and is removed. The antimony is removed by treatment with caustic soda, which results in production of antimoniate of soda.

*Claim.*—First, treating work lead which has been desilvered by the aid of zinc with chloride of lead, substantially as and for the purpose described.

Second, treating work lead which has been desilvered, by the aid of zinc with chloride of lead and alkalies such as soda or potash, substantially as and for the purpose set forth.

**68,136.**—H. WESTON, Towanda, Pa.—*Lamp*.—August 27, 1867.—Explained by the claim and illustration.

*Claim.*—Forming a recess or groove in the top of the lamp body around the opening which receives the lamp top with its wick tube, said groove having perforations from its bottom into the lamp, substantially as and for the purpose set forth.

**68,137.**—RALPH V. WHITING, Abington, Mass., assignor to D. V. GURNEY, same place.—*Circular Sawing Machine*.—August 27, 1867.—The weights that actuate the back motion of the carriage, at starting pull in accordance, but eventually pull in contrary directions and stop the carriage.

*Claim.*—So arranging the weights which draw back the slide or carriage of a board-sawing machine that when the carriage first starts to return, the combined weights pull in one direction and in aid of each other, but when the carriage has passed a certain distance and has with its load acquired quite a momentum, the weights will act in opposition to each other and thus cease to give additional velocity to the carriage, substantially as described and for the purpose set forth.

**68,138.**—ANDREW H. WHITNEY, Portland, Me.—*Lock Clasp for Umbrellas*.—August 27, 1867.—One end of the band has a chambered head and the other has backwardly-inclined side slits whose acute corners are turned up to form catches which enter and engage in the chamber, and can only be withdrawn



by use of the key with which they are depressed. The band surrounds the umbrella at the place of the usual holding tape.

*Claim.*—The lock clasp for umbrellas combining the chamber band and spring as described.

**68,139.**—WILLIAM A. WILSON and JAMES SMITH, Liverpool, England.—*Grate for Furnaces.*—August 27, 1867.—The bars have pivoted extensions at the front end which are engaged by tappets on two rotary drums. The drums are geared together causing contrary rotation, and the tappets are so disposed as to cause opposite movement to contiguous bars to prevent lodgment of ashes between them.

*Claim.*—First, causing two or more of the bars of which a furnace fire grate is composed to move together in one direction and then causing them to move back a less number at a time, substantially as and for the purpose herein set forth.

Second, in connection with the above, the combination of parts herein described, consisting of bars *a*, drums *n* *r*, and their attachments and operating mechanism *i j k m*, or their respective equivalents, adapted for causing bars to move in the manner substantially as herein set forth.

**68,140.**—JOHN ZIMMERMAN, Powhatan, Md.—*Horse Rake.*—August 27, 1867.—The head has shod blocks beneath which act as runners and by which means the points of the teeth are kept clear of the ground. The shafts are arched over the rake at such elevation as to admit a considerable charge of hay which is drawn to the stack. A removable hand lever is used to raise the teeth points over obstructions.

*Claim.*—The reversible head *A*, provided with the teeth *C*, handle *h*, and socket *e*, journaled to the curved shafts *B*, and having the runners *a* attached, all constructed and arranged to operate as set forth.

**68,141.**—DAVIS L. ADAIR, Hawesville, Ky.—*Beehive.*—August 27, 1867.—The chambers and honey boxes are composed of a series of vertical sections fitted to form close boxes. To each section a comb guide is attached that is made by dipping cords in melted beeswax and rosin, which when warm are attached to the wood by pressure.

*Claim.*—First, the honey box constructed as described consisting of the sections *D*, provided with the projecting top and bottom pieces *F G*, fitting over the tops and bottoms of the vertical pieces secured together by the strips *E*, whereby vertical movement of separate sections is avoided, as herein set forth for the purpose specified.

Second, the sections of the brood chamber constructed as described consisting of the removable frames *P P*, blind frames *N N P*, sides *Z*, and sections *y*, all arranged and described and sliding over the bottom guides *S*, and between the triangular side stripes *R*, as herein set forth for the purpose specified.

**68,142.**—J. B. ALEXANDER, Washington, D. C.—*Attaching Chimneys to Lamps.*—August 27, 1867.—The raised rim of the deflector has a curved circular headed pawl, pivoted near its outer edge. The weight of the long end of the pawl will by gravitation turn its cam-shaped head inward, rising above the base rim of the chimney and holding it in place.

*Claim.*—The S-shaped lever *A*, with its circular head working eccentrically upon the axle *D*, and fitting exactly into the contraction of the chimney above the base of the rim *I*, substantially as described and for the purpose set forth.

**68,143.**—F. F. ALLYN, Nyack, N. Y.—*Car Spring.*—August 27, 1867.—The aperture in the rubber spring is filled with compressed wool to increase the sustaining power of the spring.

*Claim.*—A car spring constructed of wool and rubber combined as described and set forth in the specification.

**68,144.**—EMERY ANDREWS and WM. TUCKER, Portland, Me.—*Machine for Making Match Splints.*—August 27, 1867.—The rack has slats strung on wires with washers between them, and the match splints are clamped between the slats. The wires are tightened and the rack fed down by a compensating bar that is moved, against the action of springs, by cams on the driving shaft, and moves the rack the

thickness of a slat each stroke of the head, which pushes the card against the knives.

*Claim.*—First, the compensating feed which is so constructed that the rack is fed down by the thickness of the card, the wave or feed bar being slotted so that the rack slides through it, the slats *b*, being opened by the wedges *k*, which are secured to the reciprocating head *E*, substantially as described.

Second, the construction and arrangement upon the reciprocating head *E*, of the feed plate *D*, whose forward end pushes the cards through between the knives *C*, and between the slats *b*, of the rack *F*, as herein set forth for the purpose specified.

Third, so arranging the knives *C* on the bars *a*, that their cutting edges will be in a zigzag line for the purpose of decreasing the compression of the splint substantially as set forth.

Fourth, providing the knives with concave cutting edges substantially as and for the purpose set forth.

**68,145.**—ROBERT C. ARCHIBALD, Lafayette, Ind.—*Cider Mill.*—August 27, 1867.—The throat is adjusted to the size of the fruit, which, passing between the corrugated faces is crushed. The pomace and juice fall upon the apron, the juice passing through into the trough and the pomace, carried by the endless apron, passes between the pressure rollers.

*Claim.*—The double endless apron *L L'*, in combination with the rollers *K K'*, constructed and arranged to operate substantially as set forth.

**68,146.**—EDWIN F. BAILEY, Holderness, N. H.—*Card-board Dryer.*—August 27, 1867.—The vertical frames support the card-board carriers, and valve-adjusted flues regulate the draft.

*Claim.*—The arrangement of the foraminous chamber or channels, the heating pipe or pipes, the carrier-supporting frame or frame provided with inclined guides with each other and the air chamber at either end, and the box *A*, constructed and provided with doors and a ventilator and a valve thereto, substantially as described and for the purpose specified.

**68,147.**—R. J. BAKER, Madison, Wis.—*Trace Buckle.*—August 27, 1867.—Explained by the claim and illustration.

*Claim.*—The trace buckle, when constructed and arranged as described, consisting of the curved sides *a a*, having pivoted at their centers upon the upper side by means of the crank arm *i* the bar *k*, to the under side of which the pins *n n* are secured, said bar *k* adjusted to be raised or lowered by means of the crank arm, and when placed in the trace securely held in position by its rear end catching under the bar *h*, and the pin *n* against the bars *e*, as herein shown and described.

**68,148.**—ARTHUR BARBARIN, New Orleans, La.—*Cotton-bale Tie.*—August 27, 1867.—The metallic ball has two circumferential grooves crossing at right angles to receive the bight of the rope ends, which are bent around and have one or two turns under the body of the rope.

*Claim.*—The ball *A*, when provided with the two encircling grooves *a* and *b*, substantially as herein described for the purpose set forth.

**68,149.**—ARTHUR BARBARIN, New Orleans, La.—*Bale Tie.*—August 27, 1867.—One end of the rope is bent around the grooved periphery of the cylindrical block and the other end passed through its axial bore.

*Claim.*—The ring *A*, when constructed as herein described and shown upon the drawings, and used to fasten the end of wire rope or wire, in banding cotton or other bales, substantially in the manner herein set forth.

**68,150.**—B. F. BARKER, San Francisco, Cal.—*Butt Hinge.*—August 27, 1867.—The outer leaves fold into depressions of the middle leaf; two of the leaves placed together form a single hinge, and work alternately as the door swings upon its center.

*Claim.*—First, the three-leaf folding butt, constructed substantially as herein shown and described, the two forming a reversible hinge and acting alternately, substantially as set forth.

Second, the plate *A*, in combination with the butt, substantially as described.



Third, the muffer, substantially as described, in combination with the butt, as and for the purposes specified.

**68,151.**—J. S. BEALS, Alabama Center, N. Y.—*Sheep Rack*.—August 27, 1867.—Improvement on his patent, October 24, 1865. The doors are hinged and cleated to make a transferable open or covered rack for feed.

*Claim.*—First, so hinging the boards D and E together and combining them with hinged cleats *d d* that a sheep rack can be formed with either an open or covered hopper, or one that is provided with a cover for the sheep and with an open feed rack, or which can be closed for the sheep if desired, as set forth.

Second, extending the cleats *d d* so as to form supports for the boards E E, and connecting the boards D and E at their edges, substantially as set forth.

Third, the boards D and E, cleats *d d*, revolving standards B and pieces A, rails *a* and pins *c*, in combination with each other, all made and operating substantially as herein shown and described.

**68,152.**—J. S. BEALS, Alabama Centre, N. Y.—*Plow*.—August 27, 1867.—The upper share is attached to a standard secured to the beam in the place of an ordinary coulter; the coulter being also secured to the same standard. The share is reversible.

*Claim.*—First, making the opposite ends of the share D equal to each other so as to provide the same with double cutting edges *a a*, substantially as and for the purpose herein shown and described.

Second, securing the share D to the lower portion of a bar E which is adjustable on standard F by means of set screw *c*, substantially as and for the purpose herein shown and described.

Third, securing the coulter G on the lower end of the same standard on which the supplementary share D is arranged, substantially as and for the purpose herein shown and described.

**68,153.**—WM. F. BEATON, Philadelphia, Pa.—*Combined Pen and Eraser*.—August 27, 1867.—The back end of the pen is sharpened to act as an eraser and the holder is so arranged as to hold it in either position, as pen or eraser.

*Claim.*—A combined reversible or invertible pen and eraser, constructed substantially as described.

Also, the combination, substantially as described, of a combined pen and eraser, with a reversible holder.

Also, the combination, substantially as described, of a combined pen and eraser, a reversible holder, and a shield, for the purposes set forth.

**68,154.**—WILLIAM F. BEATON, Philadelphia, Pa.—*Frame for the Glasses of Carriage Curtains*.—August 27, 1867.—Metallic strips pass through the frame and the curtains beyond and are secured to washers and clamped tightly against the curtain.

*Claim.*—First, as a new article of manufacture, the glass and curtain holder, consisting of the concave convex plate A, washer D, and clips B, constructed and arranged as described for the purpose set forth.

Second, fastening glass in carriage curtains by clips secured to the frame and bent upon a washer, substantially in the manner described.

**68,155.**—E. BECKWITH, South Pass, Ill.—*Washing Machine*.—August 27, 1867.—Rollers are wound in the middle of the clothes to be washed and operated by the rotating ribbed cylinder against the movable rollers and the ribbed concave bed.

*Claim.*—First, the manner herein shown and described of hanging the roller E, in sliding bearings *a*, between which it is held by the thimbles *e e* and rubber washes *f f* substantially as herein shown and described.

Second, the cylindrical or partly cylindrical wash-tub A, when provided with slotted head piece C and perforated partitions F in combination with the up and down adjustable oscillating or revolving roller E, all made and operating substantially as herein shown and described.

**68,156.**—HIRAM H. BEERS, Toulon, Ill.—*Pad Crimp Press*.—August 27, 1867.—The projecting mold on the hinged lever frame enters the corres-

ponding recess for crimping the leather into the shape of the pad.

*Claim.*—A crimp or break for pads having an adjustable die B, all made substantially as described.

**68,157.**—RICHARD W. BENDER, New York, N. Y.—*Filter for Refining Sugar*.—August 27, 1867.—The sirup vessel has a supply pipe for steam and the saccharine solution and escape pipes, with a lower pipe leading to the filter which is filled with fine animal charcoal. When the sirup chamber has been filled the sirup is forced by live steam through the charcoal.

*Claim.*—The arrangement herein described for forcing the liquid through the animal coal by means of live steam, acting on the said liquid in a montejus, connected and combined with the filter or filters, substantially as set forth.

**68,158.**—GEORGE W. BENNETT, Brooklyn, N. Y., assignor to self, GEORGE W. PEEK, and CHARLES S. BIRD.—*Paint Can*.—August 27, 1867.

The bar is secured across the top of the can, and the lid has a thumbscrew that secures it to the bar.

*Claim.*—First, the combination of the cross bar B, having a screw hole formed through its central part with the upper part of the can A, substantially as herein shown and described, and for the purpose set forth.

Second, the combination of the cover C, having a groove formed in its lower side near its edge, and having a screw, D, attached to its central part with the cross bar B, and can A, substantially as herein shown and described, and for the purpose set forth.

**68,159.**—O. W. BLANCHARD, Delevan, Wis.—*Medical Compound*.—August 27, 1867.—For treatment of consumption. Morphia, 1 drachm; water, 14 drachms; alcohol 2 drachms; sulphuric acid, 60 drops; hydrocyanic acid, 65 drops; tincture of lupulin, 60 drops.

*Claim.*—The medical compound made of the ingredients and mixed together in or about the proportions, substantially as and for the purpose described.

**68,160.**—CHARLES D. BLINN, Port Huron, Mich.—*Horse Hay Fork*.—August 27, 1867.—A rope from the toggle extends to the middle of the prong, and one from the small end of the loop to the rear end of the same. The prong is thrust by the detachable staff into the hay; the staff is then drawn out and the hay raised by the toggle rope. In discharging the hay the toggle is freed by a rope which passes to the operator.

*Claim.*—First, the prong A, constructed with a socket for the reception of the removable handle B, substantially herein shown and described, and for the purpose set forth.

Second, the combination and arrangement of the loop or ring F, toggle D, and ropes C E G H, with each other and with the prong A, substantially as herein shown and described, and for the purpose set forth.

**68,161.**—HILAND T. BOUTELL, Springfield, Vt.—*Clothes Pin*.—August 27, 1867.—The jaws are pivoted within the slot in the stock, and are projected towards each other by springs behind.

*Claim.*—The two clamps B, and the spring C *a*, arranged and operating in the stock A, as herein set forth for the purpose specified.

**68,162.**—THOMAS S. BOWMAN, St. Louis, Mo.—*Closing Bottles*.—August 27, 1867.—The neck of the bottle is marked so as to break easily below the stopper to avoid the danger of its being refilled.

*Claim.*—First, the method of stopping bottles, substantially as described.

Second, the special construction and combination of the bottle neck and stopple B, substantially as and for the purpose specified.

**68,163.**—WILLIAM BURNET, New York, N. Y.—*Brush and Top of Mucilage Bottles*.—August 27, 1867.—The brush is secured inside the cap by a spring that also keeps it suspended in the bottle except when pressed down into the mucilage.

*Claim.*—First, the use of a spring collar or washer on the handle of a mucilage brush.



Second, the use of the same in combination with a spring and the cap of a mucilage bottle.

Third, the use of a tubular rubber spring in combination with a mucilage bottle, all made and operating as described, or their mechanical equivalents.

**68,164.**—S. BUTTENHEIM, New York, N. Y.—*Nursery Lounge*.—August 27, 1867.—Explained by the claims and illustration.

*Claim.*—First, a combined lounge and night chair when made and operating substantially as herein specified and described.

Second, a combined lounge, night chair, and folding table, when made and operating substantially as herein specified and described.

Third, a combined lounge, night chair, folding table and bureau, when made and operating substantially as herein specified and described.

Fourth, a combined lounge, night chair, folding table, bureau and writing desk, when made and operating substantially as herein specified and described.

Fifth, a combined lounge, night chair, folding table, bureau and mirror, when made and operating substantially as herein specified and described.

Sixth, a combined lounge and folding table, the latter being so arranged as to be concealed in a drawer K, expanded or altogether removed from the lounge, as set forth.

Seventh, a combined lounge and mirror when made and operating substantially as herein specified and described.

Eighth, a combined lounge and writing desk, when made and operating substantially as herein specified and described.

Ninth, a nursery lounge when made and operating substantially as herein specified and described.

**68,165.**—ANDREW CANFIELD, Lyons City, Iowa.—*Corn Cultivator*.—August 27, 1867.—The adjustable guard regulates the application of the earth to the corn. The plows are elevated by levers pivoted in bands on the axle. The seat is raised or lowered by adjusting its jointed support.

*Claim.*—First, the adjustable extension guard to regulate the amount of earth applied to young corn.

Second, the raising levers G G, in combination with the double stirrups a a, for the purpose above set forth.

Third, the principle of raising and lowering a seat by means of a joint in the support of the seat, when used substantially as and for the purposes above set forth.

**68,166.**—PETER CHANDLER, Olney, Ill.—*Portable Fence*.—August 27, 1867.—The panels are attached to their respective posts by keys and braces that are secured in the sills.

*Claim.*—The combination of the keys or gibs C, constructed as described, with the slotted posts A A' and double battened panels B B' of a portable fence, as and for the purpose described.

**68,167.**—M. D. CHEEK, Clarendon, Ark.—*Cotton-bale Tie*.—August 27, 1867.—The ends of the hoop are passed up through thin slots and bent around pins in the two portions of the clasp, which are then hooked together.

*Claim.*—First, a cotton-bale tie constructed in two parts with lapping ends, provided with perforations in the one side and hooks on the other, substantially as shown and described.

Second, the bars G H, cylindrical upon the surface, around which the hoop passes, in combination with the parts of a cotton-bale tie, as shown and described.

Third, a cotton-bale tie constructed with lapping ends, fitted as shown and provided with bars G H, slits I I, perforations F F, and hoops E E, for the purpose set forth.

**68,168.**—THEODORE D. CHRISTOPHER, Madison, Ind.—*Wrench*.—August 27, 1867.—A short screw is used for nice adjustment; the said screw is connected to a sliding thimble engaging with the ratchet bar by a spring catch.

*Claim.*—First, the combination of the sliding thimble D, the plate E, the catch bar F, and the spring a with a ratchet wrench, substantially as and for the purposes set forth.

Second, the same in combination with the screw G and nut H, arranged, substantially as shown and de-

scribed, on bar e of a ratchet wrench, for the purposes set forth.

**68,169.**—JACOB CLICK, Springfield, Ohio.—*Harrow*.—August 27, 1867.—Explained by the claims and illustration.

*Claim.*—First, constructing a harrow with a series of long curved and sharp-edged teeth or knives secured to a rotating shaft, so that they may be depressed to cut deeply into the ground when desired, substantially as and for the purpose set forth.

Second, a harrow constructed with the curved sharp-edged teeth D D and a series of long knife-shaped teeth E, secured to the rotating shaft F provided with the levers G G by which said knives E may be depressed to cut deeply into the ground when desired, substantially as set forth.

Third, in combination with the shaft F and levers G G, the pawls J J and ratchets I I, substantially as and for the purpose set forth.

Fourth, in combination with the harrow A and the long seat M mounted thereon, the levers G G, joined at their upper ends by the long connecting rod N, as and for the purpose set forth.

Fifth, in combination with the harrow A, the adjustable wheels O O P, for the purpose of limiting the depth to which the teeth or knives may cut.

**68,170.**—ROBERT B. COAR, Jersey City, N. J.—*Filter Faucet*.—August 27, 1867.—The cock has a hollow plug with a filtering diaphragm that can be inserted or removed when the cap is off. The filter is cleaned by reversing the plug and turning on the water.

*Claim.*—The handle f attached directly to one side of the larger end of the tapering hollow plug d, in combination with the removable cap e and filtering diaphragm h, all arranged as and for the purposes set forth.

**68,171.**—CHARLES COLBY, South Pass, Ill.—*Machine for Cutting Berry Boxes*.—August 27, 1867; antedated August 18, 1867.—The strips are cut by longitudinal movement of the sliding box and simultaneously scored where they will be required to bend in making the box.

*Claim.*—First, the cutting of strips for berry boxes by means of reciprocating frame B, provided with the knife C, the slitting or grooving cutters c, bed D, and the spur or trimming cutter d, with the stop or transverse bar E or the frame A in which the frame B works, all combined and arranged to operate substantially as and for the purpose set forth.

Second, the bars G G, fitting loosely on the shaft F, and spiral springs e, when constructed and arranged in such a manner that the said bars G G shall press the strips being cut against the under side of the knife, as herein set forth.

**68,172.**—MCDOWELL DARROW, Gates, N. Y., assignor to himself and O. W. HART, same place.—*Cheek-Rein Holder*.—August 27, 1867.—The circular hole receives the cheek hook, and the fore bar of the triangular loop has a spur to engage one of a series of holes in the rein, which passes through the loop.

*Claim.*—In connection with the ordinary check rein and hook of harness, the rein-holder, constructed and operating substantially in the manner and for the purpose herein shown and described.

**68,173.**—HERMON V. DAVIS, Amherst, N. H., assignor to CHARLES RICHARDSON, same place.—*Seed Drill*.—August 27, 1867.—The planter has at its lower end an opener and a coverer. The seed hopper is at the end of a handle which is pivoted to the body of the implement, and acts by its oscillation to drop the seeds through cavities in its side and the disk pivoted to the side of the chute. The disk has graduated holes to suit different sized seed.

*Claim.*—The several parts marked a b c f g n k, when the several parts are connected, arranged, and operated as specified.

**68,174.**—L. DE GOLIA, Batchellerville, N. Y.—*Wash-Board*.—August 27, 1867.—The opposite corrugated surfaces of the board are of wood and metal respectively.

*Claim.*—A wash-board provided with a wooden and



a metallic corrugated surface, substantially as and for the purpose herein shown and described.

**68,175.**—GEORGE B. FIELD, New York, N. Y.—*Amalgamator*.—August 27, 1867.—The rollers have reciprocating oscillatory motion in the segmental chambers containing the ore, to comminute the same sufficiently to allow its passage through the small tubes into the setting chambers.

*Claim.*—First, the arrangement and combination of the rollers H H with the segment amalgam chambers A A so that the former shall work back and forth in the latter, to produce at the same time a crushing and grinding of the ores, in the manner and for the purpose substantially as above set forth.

Second, the combination and arrangement of the vertical shaft D, arms G G, and hoppers K K, and rollers H H working in chambers A A, substantially as and for the purposes described.

Third, the arrangement of the amalgam chambers A A and setting chambers B B, connected by the conduits C C, substantially as described.

Fourth, the arrangement of the chambers A A with the chambers B B, shaft D, arms G G, agitators F F, hoppers K K, and rollers H H, substantially as specified.

**68,176.**—THOMAS G. U. FISK, Macon City, Mo.—*Washing Machine*.—August 27, 1867.—The inner vessel is cylindrical and has a closely-fitting plunger, which is depressed by a lever and raised by a spiral spring. The vessels communicate through holes in the bottom of the inner one.

*Claim.*—The piston C', lever D, and spring E, in combination with the vessels A B, the whole being arranged and operated as described and set forth.

**68,177.**—BENJAMIN FORCE, Mount Pleasant, Iowa.—*Fence*.—August 27, 1867.—The cross-posts of the fence are connected by parallel bars that separate the boards of the fence, which are kept in position laterally by vertical posts. The fence is locked by a rider.

*Claim.*—First, the diagonal braces F, in combination with the stakes A, riders C, parallel bars E and B, all arranged substantially as set forth.

Second, the battens H, in combination with the stakes, riders and bars, all arranged as shown and described.

**68,178.**—JOHN FRASER, Dowagiac, Mich.—*Smoothing Iron*.—August 27, 1867.—A copper plate is riveted to the face of the iron.

*Claim.*—The copper plate B, in combination with a smoothing iron, in manner and for the purposes substantially as described.

**68,179.**—JAMES M. FREEMAN, Belleville, N. Y.—*Riding Attachment for Harrows*.—August 27, 1867.—The tongue is bolted to an arched, elastic bar that is secured to the harrow frame. A spring running back from the front end of the tongue bears a seat for the driver over the wheels.

*Claim.*—The connecting of a riding attachment to a harrow through the medium of the elastic bar B, bolt b, chain d, and draft hook c, all arranged substantially as and for the purpose specified.

**68,180.**—FREDERICK GESSWEIN, Fond du Lac, Wis.—*Window Shade*.—August 27, 1867.—The slats are lozenge-shaped in cross section, and so woven with warp threads as to make a flexible blind.

*Claim.*—A blind or shade composed of slats with beveled edges, arranged substantially as above described, with notches in the edges of each slat where crossed by threads, thereby weaving the slats closely together and narrowing the opening between them, and allowing the bevels of the edges to connect closely.

**68,181.**—SAMUEL GIBBONS, Binghamton, N. Y., assignor to himself and J. E. PALMER, same place.—*Drying Barrels*.—August 27, 1867.—The barrels are dried by steam-heated pipes that pass into and around them.

*Claim.*—First, the within-described method of drying barrels by the heat radiating from pipes or equivalent means introduced into the barrels, substantially in the manner set forth.

Second, an apparatus for drying barrels, composed of a series of pipes A, with branch pipes C, substantially as and for the purpose described.

**68,182.**—J. H. GODWIN, Scotland Neck, N. C.—*Baling Press*.—August 27, 1867.—The platen is supported on legs and is raised by toggle levers which are hung to the upper beams of the frame and pivoted to the platen.

*Claim.*—First, the levers E G, connected with the shoulders f, and platen H, in combination with the drop doors I, springs J, and buttons k, substantially as described for the purpose specified.

Second, the sides h h' h'', hung to one post and door m, in combination with the bar g, cross bars o o, drop catches h, bars n n, guide bars r r, hinged bars i i, and head block c, substantially as described for the purpose specified.

Third, the screw nut in combination with the upper hinge to prevent the dragging of the doors, as herein set forth.

Fourth, the combination of the head block C, supplemental door s, and button t, substantially as described for the purpose specified.

Fifth, the combination and arrangement of the frame A, having stout plates b, levers E G, connected by shoulders f, doors, h h' h'' and m, and supplemental door s, catches h, cross bars O O, bars n n e, button t, head block C, drop doors I, springs J, and buttons K, bar g, guide bars r r, and hinged bars i i, substantially as described for the purpose specified.

**68,183.**—JAMES GRAY, Newark, N. J.—*Sad-iron*.—August 27, 1867.—The solid iron has projecting lugs to which the suspended, slotted shield of the handle is secured by pivoted bolts.

*Claim.*—First, the solid iron A, when provided with a lug or lugs a, in combination with the shield B, having a bolt or bolts C, and fitted to the handle supports D, as described.

Second, the flanges b and c, or either, formed respectively on the surface of the solid iron A, and on the under side of the shield B, form an air chamber, as set forth.

**68,184.**—VICTOR HAGMANN, Washington, D. C.—*Vegetable Cutter*.—August 27, 1867.—The knife is attached to a screw shaft and makes incisions in the root which is attached to the base piece. As the screw shaft travels on its bearings, the distance between its cuts is equal to the pitch of the thread.

*Claim.*—First, a device for cutting vegetables, &c., having one or more knives attached to a screw adapted to receive a rotary and progressive motion, substantially as described.

Second, the combination with a screw A, bearing one or more knives, of the spring jaw D, for holding said screw to its threaded bearing and permitting its ready retraction, substantially as described.

**68,185.**—HENRY G. HALL, Fayetteville, N. C.—*Ring for Spinning*.—August 27, 1867.—Explained by the claim and illustration.

*Claim.*—The rings B C, constructed as described, the former provided with the eccentric flange a, fitting into the rail, and the latter with a similar eccentric flange fitting within the ring B, when both are constructed to operate as set forth and held in position by means of the set screws b e, substantially as described for the purpose specified.

**68,186.**—SAMUEL G. HALL, Norwich, Conn.—*Rotary Steam Engine*.—August 27, 1867.—One piston is formed in L-shaped sections, the diametric arms of which occupy the recesses of the other piston. The pistons reciprocate in an eccentric hub and have jointed feet packing to the inside of the cylinder.

*Claim.*—The L-shaped pieces of the piston B, provided with grooves d, and tongues e, operating in combination with the piston B', provided with recesses b, when applied to the piston wheel C, and irregular cylinder A, all constructed as and for the purpose described.

**68,187.**—HENRY M. HAMILTON, New York, N. Y.—*Die for Forming the Eyes of Picks*.—August 27, 1867.—As the taper punch descends into the heated blank which is enclosed in the dies, it pushes the metal before it so as to perfectly fill the chamber in



the dies, and the surplus metal is cut off between the shoulder of the punch and the cutter ring, whose upper surface determines the length of the elongated eye.

*Claim.*—The combination of the improved jaws A A', a divided cutter ring G, (either at the upper or lower side,) and shouldered punch E, operating substantially as described.

**68,188.**—JONATHAN R. HAMILTON, Portland, Oregon.—*Fumigator for Destroying Vermin.*—August 27, 1867.—The chamber in which the smudge is generated is lined with non-combustible material, and the air is driven through it by the contraction of the elastic bulb, which is provided with valves.

*Claim.*—First, the cup or bowl A, with its insulated chamber H and pipe D, as constructed with stopper E, in combination with the apparatus F, or its equivalent, for operating substantially as and for the purposes herein specified.

Second, the pipe D, as constructed with the end closed and side openings *e e* for the escape of the fumes when said pipe is constructed with a chamber having an inside coating of calcined plaster or other suitable material as a non-conductor of heat, as described and for the purposes herein set forth.

**68,189.**—OSCAR HANKS, Cincinnati, Ohio.—*Curtain Fixture.*—August 27, 1867.—The longitudinally elastic pulley and collar allow the adjustment of the roller to brackets set at various distances.

*Claim.*—The elastic adjustable grooved pulley E, in combination with elastic collar F as applied to certain rollers C, substantially as described.

**68,190.**—RICHARD HARDENBROOK, Bath, N. Y.—*Grape Plow.*—August 27, 1867.—By the construction of the clevis the adjustment of the line of draft is made automatic when the plow is reversed. The depth of furrow is regulated by the engagement of the lip on the clevis with one of the notches on the nose of the beam, and is secured in its adjustment by a bolt. The plow is reversible.

*Claim.*—The clevis H, provided with the elongated slot *h*, perforated arms or fork *h' h'*, and lip *e*, when connected to the notched beam A by means of the single pivotal bolt, substantially as and for the purpose described.

Also, the curved form of the slot *h*, or the equivalent thereof, whereby a forward inclination is given to the draft-bearing surface of the clevis from the center to the ends thereof, substantially as described.

Also, the flanged extension or tail piece A' formed on the beam A, as a means of attachment of the handles B B, as described.

**68,191.**—JOHN HARMAN, McConnellsville, Ohio.—*Sheep Rack and Mow Combined.*—August 27, 1867.—The rack has a mow over it for holding hay, to refill the rack as the sheep remove it.

*Claim.*—The construction and combination of the rack A and mow B and opening C, as herein described and for the purposes set forth.

**68,192.**—SANDY HARRIS, Philadelphia, Pa., assignor to himself and DAVID BEVAN, same place.—*Sash Weight.*—August 27, 1867.—The groove in the weight receives the cord, and is deep enough to allow the cord to occupy a central position.

*Claim.*—The mode or modes, substantially as herein described, of attaching the sash cord to the weight.

**68,193.**—WILLIAM H. HAWLEY, Utica, N. Y.—*Elevating Block.*—August 27, 1867.—The chain is partially imbedded in the grooves of the pulley so as not to slip thereon, and the pulley is restrained from rotation, when required, by dropping the pawl into engagement with the teeth on the periphery of the pulley.

*Claim.*—The pulley D, substantially as described, in combination with the chain E and stop G, for the uses and purposes mentioned.

**68,194.**—HENRY M. HAYWARD, Boston, Mass.—*Bucksaw Frame.*—August 27, 1867.—The straining bar is attached by links to a toothed cam, whose rotation on the toothed bearing plate draws upon the link and strains the saw.

*Claim.*—The improved saw straining mechanism, as described, or, in other words, the combination and

arrangement of the teeth *a b* with the cam E and its bearing plate C, when combined with the lever F and its connecting rods, or the equivalent thereof, the whole to be applied together and to a saw frame, as specified.

**68,195.**—J. S. HENRY and A. H. REIST, Manheim, Pa.—*Horse Hay Fork.*—August 27, 1867.—The connecting rod is pivoted to the tine and to the operating lever, and these two latter to the shaft. When the tine is projected at right angles, the operating lever is locked by a trigger, and the release of the latter allows the weight of the hay to straighten the point, and the hay is discharged.

*Claim.*—The arrangement of the notched lever G, in combination with the spring bolt K H, for operating the point E by a connecting lever D between the parallel bars A A', all combined and operating in the manner and for the purpose specified.

**68,196.**—WARREN S. HILL, Manchester, N. H.—*Sewing Machine.*—August 27, 1867.—Improvement on the chain stitch or single thread machine. As the crank is rotated the bent needle bar is reciprocated, forcing the needle through the opening in the presser foot, through the cloth, and then returning it. The looper performs its office, and is operated by connections from the needle rod. A projection on the needle rod traverses a slot in a cam plate, and throws the needle forward to feed the cloth.

*Claim.*—First, the combination of the needle arm E, constructed as described, with the sliding pin *d'* and cam *k*, substantially as and for the purpose specified.

Second, the needle rod E and its grooved cam plate J, for operating the looper, substantially as described.

**68,197.**—W. L. HOPPER, Monmouth, Ill.—*Device for Catching Animals.*—August 27, 1867.—The two curved arms are pivoted together. The claws close when the spring is tripped by an animal.

*Claim.*—The sliding bar C in combination with the parts A B and spiral spring *s*, substantially as described for the purpose specified.

**68,198.**—J. CARROLL HOUSE, Lowville, N. Y.—*Apparatus for Agitation of Milk in Cheese Vats.*—August 27, 1867.—The milk pan is surrounded by a water jacket, and is kept constantly stirred by the revolving paddles on the sleeve shaft and the vibrating paddles on the central shaft, the motor being a falling weight or other power.

*Claim.*—The use of the compound vibrating rotary dasher D B F C E with the pulley G, crank *e*, together with the crank pulley H, and their connections, as and for the object herein specified.

**68,199.**—EDWARD HOWELL, Ashtabula, Ohio.—*Carriage Curtain Button.*—August 27, 1867.—The thumb piece is raised and the curtain placed between the ears and the front plate; the thumb piece is then brought down, which presses the cam against the rib and holds the curtain securely.

*Claim.*—The cam *c* and thumb piece E, pivoted to the cam and arranged in relation to the rib *d* and curtain, substantially as and for the purpose set forth.

**68,200.**—HANFORD INGRAHAM, Naples, N. Y.—*Plow Clevis.*—August 27, 1867.—The slotted reversible draft clevis is elongated sufficiently to allow the horse to walk clear of the furrow in side hill plowing.

*Claim.*—The clevis as constructed substantially in the manner and for the purpose as herein set forth.

**68,201.**—D. W. JACOBY, Shelbyville, Ill.—*Combined Corn Planter and Cultivator.*—August 27, 1867.—The seed slide in the bottom of the hopper is actuated by the crooked lever between the handles, to which it is connected by a rod; it is reached by a spring.

*Claim.*—First, the stationary plate P, substantially as described.

Second, the combination of the stationary plate P, having a mortise or groove in which a slide plate O is made to operate by means of a spring *h*, rods *v m*, and crooked lever *n* in combination with pipe R, substantially as set forth.

Third, the combination of the shovels F' F, pipe R, plates O P, spring *h*, lever *n*, rods *m v*, arranged



to operate substantially as and for the purpose set forth.

**68,202.**—EDWIN A. JEFFERY, Trappe, Md., assignor to himself and G. M. CLARK, same place.—*Griddle*.—August 27, 1867.—Intended to fit over the double pot hole of a stove. Explained by the claim and illustration.

*Claim.*—The combination of the rim C, fixed plate B, hinged plate A, having recesses D, constructed substantially as described for the purpose specified.

**68,203.**—EDWARD JEWETT, Rindge, N. H.—*Veneer Cutter*.—August 27, 1867.—The lateral pressure of the friction plate in conjunction with the forward motion of the bevel knife has an edgewise bearing on the grain of the block in the direction of the cut, thereby preserving the integrity of the fiber. The bevel edge of the knife leaves a polished edge on the surface of the lumber.

*Claim.*—The face beveled knife C, when combined with the head block B, and arranged with relation to the friction plate D, as and for the purposes set forth.

**68,204.**—WILLIAM B. JOHNSON, Bowling Green, Ky.—*Buckle*.—August 27, 1867.—The tongue is held down by a double-lipped spring and is projected, when released, by a spring attached to the middle bar.

*Claim.*—An improved buckle having its tongue held by means of a spring, substantially as and for the purpose described.

**68,205.**—JULIUS JONSON, Baltimore, Md., assignor to GUSTAVUS JONSON and H. L. FRANK, same place.—*Magnetic Machine for Separating Iron from Brass Turnings and Filings*.—August 27, 1867.—The central shaft of the hollow cylinder has sets of electric helices attached that connect with parallel rows of magnets on the surface of the cylinder. The helices of each set are connected by wire and the magnets are connected by the bar on which they are supported. The brass and iron turnings are precipitated from the hopper on to the apron. The magnets become active as they meet the turnings moving towards the cylinder on the apron. As they become magnetized the iron among the mass on the apron adheres to them, and is carried around almost to the brush, where, as the magnets lose their power by the stoppage of the electric current, the turnings drop into the spout and are discharged.

*Claim.*—First, the arrangement of the helices G G, magnets H H, wires g g, and rod i' K', in connection with the plate O and the plate P, substantially as and for the purpose described.

Second, the arrangement of the magnets H H, with their faces in a position inclined obliquely across their direction of revolution, substantially as and for the purpose specified.

**68,206.**—ANDREW JUSBERG, Galva, Ill.—*Casting Bells*.—August 27, 1867.—The bell metal is composed of five parts copper and one of block tin, to forty pounds of which mixture four pennyweights of United States silver coin of 1860 is added. The lower portions of the globular bells are cut into six lobes.

*Claim.*—Forming sleigh-bells of copper, tin, and silver, in the proportion substantially as described.

**68,207.**—WILLIAM J. KEENEY, Florence, Ind.—*Harvester Pitman*.—August 27, 1867.—The pitman is coupled to the sickle bar of the reaper with an adjustable knuckle joint formed by a movable box fitted against the end of the sickle bar.

*Claim.*—The dotted adjustable box C, constructed as described, its outer concave end fitting and working against the outer convex side of the hook b of the sickle bar, its inner end secured to the pitman A, as herein set forth for the purpose specified.

**68,208.**—O. P. KINGMAN, Bridgeport, Conn.—*Watch Key*.—August 27, 1867.—The key is swiveled so as to turn axially in a collar turning on trunnions in a half link. The key is turned at right angles to the link on its trunnions and placed upon the arbor and turned to wind the watch. The opening near the foot of the barrel is used to clean it out.

*Claim.*—First, a watch key rotating axially in a

collar oscillating on trunnions, substantially in the manner described for the purposes set forth.

Second, the combination of the axially rotating key, the swinging collar, the half link or loop, and the swivel C, for the purpose of winding up the watch with the key attached to the watch itself by a short link and of protecting the key when not in use.

Third, the notch i, in the barrel for the removal of obstructions, as set forth.

**68,209.**—ISAAC KOHN, Edgerton, Ohio.—*Broom Head*.—August 27, 1867.—The hinged leaves of the metallic head have spikes inside to retain the brush, and hooks beneath to secure the leaves in position.

*Claim.*—The leaf A, flange C, and loop c', arranged in relation to the hooks D, teeth E, and case, as and for the purpose substantially as specified.

**68,210.**—A. KOMP, New York, N. Y.—*Steam Heating Apparatus for Brewers and Others*.—August 27, 1867.—The central steam chamber has a number of small radial pipes ejecting the steam into the mash in small jets at many points.

*Claim.*—The arrangement of a series of small nozzles a, in combination with the steam heating drum or pipe A, substantially as and for the purpose described.

**68,211.**—ADOLPH F. KUHLMANN, Dubuque, Iowa.—*Washing Machine*.—August 27, 1867.—Improvement on his patent August 7, 1866. The suds box bottom is lined with a sheet of corrugated metal and has a sectoral rubber oscillating in combination with it. The stuffers are pivoted to the frame beside the axis of the rubber so as to receive reciprocating movement and to stuff the clothes through the opening in the rubber.

*Claim.*—First, the combination of the smooth rubbers D and inclined rubbing and feed boards E, with the vibrating arms or plates C and shaft B, substantially as herein shown and described and for the purpose set forth.

Second, the pivoted stuffers F, in combination with the inclined feed boards E, vibrating arms or plates C, and tub A, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the pivoted guard board G, or equivalent, with the stuffers E and vibrating arms or plates C, substantially as herein shown and described and for the purpose set forth.

**68,212.**—CLARK M. LANGLEY, Lowell, Mass.—*Driving Printing Presses*.—August 27, 1867.—The larger end of one frusto-conical drum is opposite the smaller end of the other one, and the belt is shifted along the drums to vary the speed.

*Claim.*—The spring B, which retains the shipper bar and driving belt in any required position, in combination with the cord L, the shipper bar O P, and the double cones, substantially as herein described.

**68,213.**—JAMES A. LAWSON, Troy, N. Y.—*Coal Hod*.—August 27, 1867.—The body of the scuttle is in the form of the frustum of a hollow cone. It has a hopper at top to retain the coal while being discharged from the spout in front.

*Claim.*—A coal hod or scuttle, having its body in the general form of a frustum of a cone, and provided with a hopper, all substantially as and for the purpose specified.

Also, the bale, when combined with the body of the scuttle by means of hinged joints and stops, substantially as and for the purpose specified.

**68,214.**—N. H. LEBBY, Charleston, S. C.—*Centrifugal Pump*.—August 27, 1867.—The wheel shaft extends through a hollow shaft carrying a pulley. The hollow shaft turns in bearings in uprights. When the wheel is in position within its casing the shaft is engaged at its end by the clutch. By turning the head plate to relieve it of the catches upon the casing and sliding the wheel outward, the shaft can be unhitched from the drum and the wheel cleared if choked.

*Claim.*—The head plate B, provided with lugs D, in combination with the catches E, shaft C, drum F, and clutches H I, substantially as described for the purpose specified.

**68,215.**—JOHN LEE, New London, Conn., assignor to ISAAC C. TATE, same place.—*Vice*.—August



27, 1867.—The stationary jaw of the metallic vice is mortised in even with the top of the bench and is further secured by flanges. The movable jaw engages with the stationary jaw and is secured to it by the hand screws.

*Claim.*—First, the stationary jaw A, when provided with a flange *a*, as and for the purpose specified.

Second, in combination with the above a sliding jaw when the same has a tongued shank fitting in grooves arranged on the arms of the stationary jaw, said arms being fitted to the under side of the bench, substantially as described for the purpose specified.

**68,216.**—AMOS LEITNER, Hopewell township, Ohio.—*Portable Crane for Loading Wagons.*—August 27, 1867.—The loading is raised in the scoop by the cord running friction pulleys attached to the crane, and round the drum connecting by the bevel wheels with the sweep. The draft rope is tightened by the lever brake connecting with the drum.

*Claim.*—First, the combination of the lever R, connecting bars O and N and sliding bar P with each other and with the hinged bearing M of the pinion shaft or axle G, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the lever S, connecting bars T and cross-bar U, with each other, with the sliding bar P, and with the slotted end of the arm or beam *a*<sup>2</sup>, substantially as herein shown and described.

Third, attaching the tines *v*<sup>1</sup> to the cross-bar *v*<sup>2</sup> of the fork head, substantially in the manner herein shown and described.

Fourth, the combination of the scoop W with the tines *v*<sup>1</sup> and cross-bar *v*<sup>2</sup> of the fork V, substantially in the manner herein shown and described and for the purpose set forth.

**68,217.**—EDWARD C. LEWIS, Auburn, N. Y.—*Elliptic Spring.*—August 27, 1867.—The nibs on the lower sides of the upper leaf fit in grooves in the lower leaf to keep them in position.

*Claim.*—The nibs formed upon the inner sides of the ends of the leaf B, fitting into the grooves upon the upper side of the leaf A, in such a manner as to keep the leaves in line with each other and preventing their lateral displacement, said nibs and grooves formed without having any corresponding depression or projection upon their opposite sides of the leaves, as herein described for the purpose specified.

**68,218.**—HENRY LITTLE, Middletown, N. Y.—*Elevating Ice.*—August 27, 1867.—The horizontal radial arms are inserted in the shaft in a spiral line, and have a curved platform attached thereto. The bars attached to the upright frame facilitate the landing of the ice on the platform.

*Claim.*—First, the curved platform E applied to the screw elevator, substantially as and for the purpose set forth.

Second, the movable bar G applied to the frame of the device when used in connection with the screw elevator, substantially as and for the purpose specified.

**68,219.**—CALVIN L. LUCAS, Plymouth, Mass.—*Permutation Lock.*—August 27, 1867.—When drawn out of engagement the arbors are revolved, setting their indexes to any of the numbers on their respective circles, after which they may be pressed back into gear and the gears be revolved so as to throw the radial slits out of parallelism with the end of the case. In this position the bolt is prevented from being thrown back. When the indexes of the knobs are set to the gauge-marks to enable the bolt to be moved, the said bolt should be half way out. When the bolt is shot either fully backward or forward the knobs are rotated and actuate the slit wheels to carry their slits out of parallelism with the end of the case.

*Claim.*—In combination with the tumbler and the superposed bolt plate, when guided by the arbors of the permutation gear as described, of the crank or locking pin *k*, under the arrangement and for operation as herein shown and specified.

**68,220.**—GEORGE B. MARKHAM, Plymouth, Mich.—*Bed Spring.*—August 27, 1867.—Used to support the slats. Explained by the claim and illustration.

*Claim.*—The spring composed of two wires A A

having springs B coiled upon their length, each passing through an eye *a* in the other, and finished off by the loop or eye C, in manner and for the purpose substantially as above set forth and described.

**68,221.**—T. F. McCAFFERTY, Forest, Ohio.—*Compound to be used in Beehives.*—August 27, 1867.—To free beehives from moths. Oil of sassafras, 1 grain; benzoic acid,  $\frac{1}{2}$  grain; whiskey, 1 oz.

*Claim.*—The compound made of the ingredients substantially as and for the purpose specified.

**68,222.**—ROBERT G. MCKAY, Cleveland, Ohio.—*Machine for Making Spikes.*—August 27, 1867.—The heated rod is drawn in by the rollers until it strikes the gauge. The cutter descends, cuts off the blank, whose sides are swaged to a taper form by the bevels on the moving die and the bed die. The heading die is then advanced upon the blank by the sliding cam and shapes the head. The header and clamps are released and the spike is dropped from the machine.

*Claim.*—First, the cutting, pointing, and gripping die D, bed die D', header K, and spring P, all constructed and arranged as and for the purpose set forth.

Second, the sliding cam H, header J, and springs P *c*, in combination with the dies, as and for the purpose described.

Third, the described arrangement of the rollers R, lever W, cam V, spring *a*, pawl and ratchet, for the purpose specified.

**68,223.**—CHARLES MILLER, Buffalo, N. Y., assignor to himself, T. W. TOYE, and E. L. COOK, same place.—*Snap Hook.*—August 27, 1867.—The tongue of the snap hook is extended across the ring, forming, in conjunction with the ring, a buckle; the action of the strap causes the tongue to remain closed without the aid of a spring.

*Claim.*—First, the tongue C extended below its fulcrum bearings to form the buckle tongue D, in combination with the loop B, thereby forming a snap hook and buckle, substantially as described.

Second, hinging the tongue of a snap hook to the shank thereof by means of the pin *c*<sup>1</sup>, and the brace or bearing *a*<sup>2</sup>, both constructed and combined substantially as herein set forth.

**68,224.**—JOHN W. MINOR and DAVID P. WARD, New Bedford, Mass.—*Machine for Filling Ruts and Levelling Roads.*—August 27, 1867.—The shares, scrapers and roller are attached to the frame for levelling roads.

*Claim.*—First, the combination and arrangement, substantially as described, of the guide wheel B, the counters or shares *a a*, the scrapers *b b*, the lever *i*, and the roller F, substantially as and for the purpose herein shown and described.

Second, the scrapers *b b*, in combination with the roller F, arranged substantially as described, with or without the guide wheel B, and the counters or shares *a a*.

**68,225.**—S. J. MITCHELL, St. Louis, Mo.—*Cotton Bale Tie.*—August 27, 1867.—The loops of the hoop engage in the slot in the plate, and the bolt secures them from withdrawal.

*Claim.*—A cotton bale tie formed of a metal plate A having a slot *a* nearly across it, and the pins *c c* on the wings *d d*, constructed and operating as herein specified.

**68,226.**—H. F. MORTON, West Sumner, Me.—*Sleigh Brake.*—August 27, 1867.—The guides mounted upon curved springs are secured to the frame so as to direct the sleigh by hand.

*Claim.*—The guides D mounted upon a spring on either side of the sled, having both ends free, the lower arm being sufficiently long to reach the ground, and kept off it by the elasticity of a spring C, substantially as shown and described.

**68,227.**—EARL PALMER, Solon, N. Y.—*Grain Rake.*—August 27, 1867.—The hand rake moves on wheels and has fingers attached to the axle by which the gavel is raised ready for binding.

*Claim.*—First, the axle B constructed as described in combination with the clasp H and spring K, substantially as and for the purpose set forth.



Second, the clasp or binder H with the spring K and hasp L attached to the axle and working in conjunction therewith and the fingers *fff*, as described.

Third, the axle B bent at its center as described in combination with the rake sections D D independent of each other and arranged to operate substantially as and for the purpose set forth.

**68,228.**—ISAAC H. PALMER, Lodi, Wis.—*Stump Extractor*.—August 27, 1867.—The lifting chain is attached to the stump and the pivoted top of the standards. The lower ends of the latter are made to approach each other by draft of the horse. This action raises the apex, and with it the stump.

*Claim.*—First, the combination of the pivoted standards A C, wheels B E, arranged and operating substantially as herein described.

Second, the pivoted standards A C, wheels B E, and chains G e, arranged substantially as described for the purpose specified.

**68,229.**—J. C. PALMER, New York, N. Y.—*Plate Warmer*.—August 27, 1867.—The wire frame to support the plate stand is placed over a register in the floor or is hung to one in the wall.

*Claim.*—A plate warmer so constructed and operating as to present the plate edgewise to the heater register substantially as and for the purposes described.

Also, so constructing a plate warmer that it can be applied either to a register in the floor or one in the wall by merely shifting its position, substantially as described.

**68,230.**—J. N. PARKER, Darlington, Wis.—*Lifting Jack*.—August 27, 1867.—The standard is raised on a graduated base according to the height of the axle which it raises by the elevation of the projected end of its pivoted lever.

*Claim.*—The standard A to which the lever B, provided with the head B' covered with a roughened iron band *d*, is pivoted by a knuckle joint *a*, all constructed and arranged as described and adapted to be supported upon the graduated block C, as herein shown and represented.

**68,231.**—GEORGE H. PEACOCK, Fairport, N. Y.—*Carbureting Apparatus*.—August 27, 1867.—By automatic devices the liquid is so supplied from the reservoir to the carbureting chamber as to maintain a regulated level therein and expose the air to an unvarying amount of contact with the liquid. This level is adjustable for varying qualities of liquids. The liquids supplied are taken from the upper and lower portions of the column in the reservoir to maintain a uniform density in the carbureter.

*Claim.*—First, a reservoir or tank for liquid hydrocarbons in combination with a vessel through which air or gas, &c., is forced or passed in any suitable manner, when the two are so connected as to enable a uniform or even height or nearly so of liquid to be maintained in the latter or air or gas vessel, substantially as described for the purpose specified.

Second, in combination with the above, so arranging the supply tank or reservoir that it can be adjusted for maintaining a greater or less height or nearly so of liquid within the generator vessel, substantially as and for the purpose described.

Third, so arranging a pipe or tube or tubes within the supply tank, which pipe or pipes connect with the tube or other combination between the said tank and the generator vessel, as to take the liquid in the tank both from a point at or near its surface, and at or near its bottom, substantially as and for the purpose specified.

Fourth, the combination of the tank A, vessel H, and coil of pipe G, connecting the two, substantially as and for the purpose described.

Fifth, the arrangement of the air pipe within the generator H in combination with the chamber communicating with such generator, substantially as and for the purpose specified.

**68,232.**—JOHN PITCHER, Mount Vernon, Ind.—*Floating Fence*.—August 27, 1867.—The posts are inserted into the ground, and hoops connect the panels to each other and to the posts.

*Claim.*—First, the combination of the panels A, hoops B, and stakes C, or their equivalents, with each

other, substantially as herein shown and described, and for the purpose set forth.

Second, in combination with the above, the cables E, posts D, substantially as described, for the purpose specified.

**68,233.**—SAMUEL L. POTTER, Wyandotte, Mich.—*Rolls for Rolling Railroad Rails*.—August 27, 1867.—The steel bar is so built into the rail pile as to protect it by the surrounding iron from the intensity of the heat. The steel is placed to occupy the whole tread of the wheel. The rail is passed through a succession of openings formed by counterpart grooves, modifying it by each transit.

*Claim.*—The fillets or shoulders *h h*, formed in one or more of the rolls, and in any desired number of grooves therein, so as by pressure upon the rail to cause the steel to become prominent, substantially as and for the purpose described.

**68,234.**—C. T. PROVOST, New York, N. Y.—*Barrel or Cask*.—August 27, 1867.—The barrel is divided by a central diaphragm, intended to preserve the freshness of beer by limiting the capacity of the chamber drawn from.

*Claim.*—Dividing the interior of a barrel, keg, or cask, into two or more compartments by means of partitions arranged within the barrel, substantially as and for the purpose herein shown and described.

**68,235.**—EMMETT QUINN, Washington, D. C.—*Water Gauge for Steam Generator*.—August 27, 1867; antedated August 1, 1867.—The glass plates are secured in the metallic frame of the gauge to make the contents visible.

*Claim.*—As a new article of manufacture, a water gauge, consisting of the metal frame, with the glass plates B secured thereto on opposite sides, as herein shown and described.

**68,236.**—WM. P. READ, Longmeadow, Mass.—*Paper Binding*.—August 27, 1867.—The narrow strip of metallic plate is bent around the back edges of the papers, binding them into position.

*Claim.*—A paper fastener, composed of the strip A, arranged and constructed substantially as and for the purpose described.

**68,237.**—MARTIN RYERSON, Huntsville, Ala.—*Swingle Tree*.—August 27, 1867.—Explained by the claim and illustration.

*Claim.*—A swingle tree, constructed of iron rods *a a*, in a barrel form, bound together and supported by disks *b* and *b'*, and arranged and applied substantially as herein described.

**68,238.**—WILLIAM S. RYERSON, Philadelphia, Pa.—*Hoop Skirt*.—August 27, 1867.—The vertical supporters of the hoops are adjusted longitudinally by buckles attached to the waistband.

*Claim.*—A hoop or skeleton skirt, having its tapes secured to the waist band or belt in combination with buckles at such point of attachment through which the said tapes pass, substantially as and for the purpose described.

**68,239.**—WILLIAM RYNER, Philadelphia, Pa., assignor to himself and JOHN C. HOPEWELL, Flemington, N. J.—*Steam Drying Apparatus*.—August 27, 1867.—The drying houses are heated by superheated steam conveyed into them by pipes.

*Claim.*—First, the center pipe C P, steam cocks S C, and openings H, the whole constructed and operating in the manner and for the purpose above set forth and described.

Second, the sets of steam pipes U S, and U' S', with escape steam pipe T Y, and discharge holes H H H H, connected with fire house A by pipe P M, the whole constructed and operating in the manner and for the purpose above set forth and described.

**68,240.**—ABSALOM SAEGER, Meadville, Pa.—*Wool Packer*.—August 27, 1867.—Improvement on his patent February 20, 1866. The wool sack is drawn over the rack cylinder and held by the rubber band. The wool is driven by racks, gears, and a follower from the cylinder, which is turned into a discharging position for that purpose. As the cylinder



returns for a charge the wool is retained by a hoop inside.

*Claim.*—The construction of the rack cylinder, Fig. 5, in combination with the hoop W, constructed with its outer end leveled, and larger than its inner end, in combination with the packing cylinder A, the follower X, the pin S, the racks B, and the gear wheels D and E, the rollers 6 7 8 9, when the same are constructed as described in the aforesaid combination, and for the purposes set forth.

**68,241.**—CHARLES H. SAWYER, Saco, Me.—*Jack Screw.*—August 27, 1867.—The central screw traverses vertically as the cap is rotated. The rotation is obtained by the bevel gear, which is moved rapidly, with small effective force, by means of the crank, or is moved forcibly and at a slower rate by means of the oscillating lever and spring dog.

*Claim.*—The jack screw, combining the different parts herein described, arranged and to operate as set forth.

**68,242.**—C. SCHENCK, Manheim, Baden.—*Mash and Beer Cooler.*—August 27, 1867.—The beer is received on a revolving disk and thrown against a revolving cylinder from whence it passes to an annular pan. It is subjected to a central air blast on its passage.

*Claim.*—First, a liquid cooler, so constructed that by centrifugal power the liquid is thrown from a revolving disk against the inside of a revolving cylinder, where it is cooled by a current of air created by a fan on the inside of the cylinder, substantially as herein shown and described.

Second, the cylinder F, in combination with the disk L on the shaft J, and with the fan M, all made and operating substantially as herein shown and described.

Third, the above, in combination with the annular vessel P, the same being made as set forth.

**68,243.**—W. SCHRECK, Des Moines, Iowa.—*Straw Cutter.*—August 27, 1867; antedated August 23, 1867.—The feed box has a reciprocating, vertical movement at the cutter end and works upon a hinge at the rear end, bringing the ends of the straw down upon the edge of a straight, flat, and stationary knife set obliquely on the front side of the frame. Under the feed box is a spring which throws up a flap for compressing the straw as the knife cuts. The adjustable feeder operates upon the straw when it is loose, after the spring ceases to act upon it.

*Claim.*—First, the sliding frame F, working in the vertical standards C C, in combination with the pitman f, the reciprocating feed box H, the spring rod p, and the feeder s, arranged and operating as and for the purposes herein described.

Second, the flap m, in the bottom of the feed box H, in combination with the spring n, arranged and operating as and for the purpose specified.

**68,244.**—ORAN W. SEELY, Buffalo, N. Y.—*Pressing Brick.*—August 27, 1867.—By the pressure of the two perforated pistons the brick receives the same porous condition on each side.

*Claim.*—The pressing of bricks by means of two perforated pistons, acting simultaneously on both sides, substantially as described.

**68,245.**—THORNTON A. SHINN, Baden, Pa.—*Instrument for Measuring Dry Goods.*—August 27, 1867.—The cloth travels between two rollers; the upper one has a periphery of definite circuit, and its revolutions are registered by a traveling index hand and graduated disk.

*Claim.*—The large wheel with the fractions of the yard or foot marked thereon, in combination with the ratchet wheel L, carrying the hand N, which registers the number of yards or feet on the dial M, together with the spring and slide, carrying the small friction wheel F, constructed substantially as and for the purpose set forth.

**68,246.**—THORNTON A. SHINN, Baden, Pa.—*Cider-mill.*—August 27, 1867.—The disk is rotated by the engagement of a driving wheel with a circular rack, and the apples pass between the shelving face of the disk and the surfaces of the toothed and smooth rollers, which cut the fruit and express the juice.

*Claim.*—The disk E, constructed and arranged

substantially as described, in combination with the rollers J K L and M, when arranged and operating as described and for the purpose set forth.

**68,247.**—L. L. SLOSS, near South Union, Ky.—*Double Shovel Plow.*—August 27, 1867.—Explained by the claim and illustration.

*Claim.*—Connecting the plow frames to each other by the three adjustable bars D E F, not in the same horizontal plane, and pivoted or connected at end to plow frames by double jointed, hinged or equivalent connections, so as to have both a lateral and vertical movement, substantially as herein shown and described and for the purpose set forth.

**68,248.**—JOHN R. SMITH, Connellsville, Pa, assignor to himself and WM. H. DENNISTON, Pittsburgh, Pa.—*Machine for Crushing and Washing Sand.*—August 27, 1867.—The axis of the wheel is attached to a vertical shaft, which rotates in the central opening of the pan, while the wheels traverse in the annular trough, the water assisting in comminuting the mass and washing off the earthy particles.

*Claim.*—First, the introduction of a stream or flow of water into the crushing pan of a revolving sand, rock, or sandstone crusher to aid the crusher or crushers in disintegrating the rock, and to cleanse and discharge the pulverized sand, substantially in the manner and for the purposes hereinbefore set forth.

Second, the rotating and revolving crushing wheels b in a sand-rock crusher, in combination with a crushing pan a, provided with a discharge gate s and a water supply pipe h, or its equivalent, all constructed and operated substantially as and for the purposes above set forth.

**68,249.**—W. SMITH, San Francisco, Cal.—*Valve for Water Closets.*—August 27, 1867.—To limit the amount of water which passes to the pan by a single motion of the handle, and to adjust the length of time the valve remains open, according to the pressure of the water. As the handle is pulled the water above the valve is displaced, and the valve then remains up until the water has gradually passed by the longitudinal openings to the space above.

*Claim.*—The valve H working through the annular elastic washer i, whereby in opening the valve the water in the chamber J is allowed to pass freely, said washer preventing the return of the water, excepting through the channel h, as herein set forth for the purpose specified.

**68,250.**—WILLIAM S. SMOOT, Washington, D. C., assignor to WINDSOR MANUFACTURING COMPANY, Windsor, Vt.—*Cartridge Retractor for Breech-loading Fire-arms.*—August 27, 1867.—The positive movement of the notched extractor plate loosens the shell from the bore, and after passing a certain point a spring comes into play, and gives a sudden impulse to the shell, which throws it clear of the fire-arm.

*Claim.*—A cartridge extractor swinging loosely on a common center with that of the carrier or breech block, when said extractor, after being gradually operated by swinging the said block, is made to take on by any means a suddenly accelerated movement to extract the shell, without accelerating the movement of the block itself by which the extractor is operated.

**68,251.**—WILLIAM SNIFFIN, Sing Sing, N. Y.—*Swivel Ship Fender.*—August 27, 1867.—As the ship moves relatively to the wharf the fender rotates on the swivel joint by which it is attached to the rope.

*Claim.*—The combination of the swivel a with the fenders A, substantially as and for the purpose herein shown and described.

**68,252.**—J. M. SPITLER, Clinton, Kansas.—*Wagon Jack.*—August 27, 1867.—As the lever is oscillated, its catch loops alternately act as lifters beneath the teeth on the edges of the lifting bar.

*Claim.*—The lifting bar B, provided with ratchet teeth a a, in combination with forked handle C and catch loops c c, the springs d d and the slide D, arranged and operating as and for the purpose described.

**68,253.**—WILLIAM T. SPROUSE, Chandlerville, Ill.—*Plow.*—August 27, 1867.—The landside is curved to the shape of the front edge of the mold board, and



then descends to bear against the ground near the heel of the plow, leaving an open arched space, and lessening the frictional surface.

*Claim.*—The landside *b*, when constructed in the manner herein shown and described.

**68,254.**—WM. R. STACE and H. M. BAKER, Rochester, N. Y., assignors to themselves, JOHN A. MORRISON, SEWARD F. GOULD, and JOSEPH EASTWOOD.—*Process to be used in the Manufacture of Glass, Soluble Silicates, Hydrochloric Acid, and Bleaching Powders.*—August 27, 1867.—The retorts are made of fire clay, and have bottom outlets and steam passages near their bottoms. To form glass, salt and sand are used. To make a soluble silicate, sand and salt are mixed in such proportions as to form a mono-silicate. After passing through a mixing mill the ingredients are placed in the heated retorts, and luted quickly; when heated steam is forced through, and the fumes escape to the condensing apparatus. The result is soda, silicate of soda, and hydrochloric acid, which latter is carried to the condenser. When forming chlorine gas, air is used instead of steam. The chlorine and nitrogen are passed through the condensing and washing apparatus, over trays loaded with hydrated lime, to form chloride of lime.

*Claim.*—The application to the manufacture of glass, soluble silicate of soda, bleaching powders, and hydrochloric acid, of the processes herein described, for the decomposition of chloride of sodium with silicic acid and oxygen gas at elevated temperatures, whether said oxygen gas be furnished in the manner herein described, (from steam or air,) or from chlorate of potash, peroxide of manganese, caustic baryta, or any other of the usual modes.

**68,255.**—W. B. STEWART, Brooklyn, N. Y.—*Bedstead.*—August 27, 1867.—The rollers are journaled in the frame, and have sacking secured to them, which is drawn taut by rotating the rollers.

*Claim.*—The bars *f* and *g*, fitted as specified, in combination with the rollers *d d i* and *k*, carrying the sacking or webbing *e* and *m'* as and for the purposes set forth.

**68,256.**—HENRY STONE, Williamsburg, N. Y.—*Grater.*—August 27, 1867.—The cake of blacking is placed in the box with one side resting upon the cylindrical grater. The comminuted fragments fall into the drawer.

*Claim.*—A grater consisting of box *A*, grating cylinder and drawer, all constructed and combined together substantially as described.

**68,257.**—CHARLES SCOTT, San Francisco, Cal.—*Apparatus for Distilling and Rectifying Petroleum.*—August 27, 1867; antedated August 19, 1867.—After the crude oil is introduced into the still the temperature is slightly raised, but not to the boiling point. Steam is then let in through jets from a pipe near the bottom of the still, and the oil is vaporized and passes into a rectifier. It is again subjected to jets of steam till the steam has thoroughly comminuted the vapor, which rises till it strikes a refrigerating coil of pipe. The cold pipe condenses and throws down the heavier portion that passes through the rectifier into a worm, where it is still further condensed and then runs back into the still to be again treated.

*Claim.*—First, an apparatus for distilling and rectifying petroleum, in which steam is used in the still, or retort and rectifier, substantially as and for the purpose described.

Second, the rectifier *E*, together with the endless coil *G*, the coils *H* and *M*, and the returning pipe *T*, substantially as and for the purpose described.

**68,258.**—ANTHONY B. SWEETLAND, Fitchburg, Mass., assignor to himself and JAMES DALEY, same place.—*Refrigerator.*—August 27, 1867.—The cylindrical metallic case is enclosed in an octagonal wooden one. The ice chamber is in the lower part, and the air circulates around this part when entering from beneath and through passages leading to the perforations in the inner case, through which it passes to the inner chamber.

*Claim.*—First, the ice bottom *D*, when provided with legs *d'*, projecting through the inclined lining

*C*, and resting upon the bottom of the case *A*, as herein set forth for the purpose specified.

Second, the air passages *a*, formed upon the sides of the metallic lining *B*, whereby the air entering the bottom at *b* passes through the perforations *d* to the revolving shelves *g*, as herein shown and described.

Third, the construction and arrangement of the perforated metallic lining *B*, having inclined bottom *C*, and provided with side air tubes *a* and central cross-bar *f*, supporting the movable shelves *g g* and removable perforated bottom *D*, all incased by the wooden casing *A*, as herein set forth for the purpose specified.

**68,259.**—ELLIS THAYER, Worcester, Mass., assignors to himself and GEORGE W. THAYER, same place.—*Dust Brush.*—August 27, 1867.—The attachment plate of the brush engages in a groove in the back, and is secured in position by an elastic band.

*Claim.*—First, the reversible sliding block *B* of a dust brush, when arranged on the grooved or tongued handle *A*, in the manner set forth, and when itself tongued or grooved, substantially as herein shown and described.

Second, the reversible sliding block *B* of a dust brush, in combination with the handle *A* and spring *D*, all made and operating substantially as and for the purpose herein shown and described.

**68,260.**—STEPHEN E. THAYER, Manchester, Vt.—*Remedy for Spavin in Horses.*—August 27, 1867.—For treatment of ringbone, &c. Quicksilver, 2 oz.; nitric acid, 1 oz.; sulphuric acid, 1 oz.; tincture of cantharides, 1 drachm; spirits turpentine, 1 oz.; boiled linseed oil, 1 oz.; tincture of asafœtida, 1 oz.; tincture of iodine,  $\frac{1}{4}$  oz.

*Claim.*—A medicine compounded of the ingredients in the manner and for the purposes herein specified.

**68,261.**—JOEL TIFFANY, Albany, N. Y.—*Preparing Paper Pulp from Straw and other Materials.*—August 27, 1867.—The stock is placed in a large bin, where it is steamed, and from this bin is transferred to the boiler, from which the air is exhausted. The stock is then treated with the caustic washing liquor. From the boiler it is blown into the washing vessel, from which it is passed to the boiler, to be treated by the bleaching fluid by exhaustion, followed by pressure. The waste steam is forced into the bin containing the stock.

*Claim.*—First, the above described process, consisting in preparing the stock, charging the boiler, exhausting the air therefrom, letting in the boiling liquor, using pneumatic pressure, and boiling the stock, in combination with the use of any caustic boiling liquor, substantially in the manner and for the purpose described.

Second, the use of the within-described bleaching process, in combination with the above-described process of preparing the stock for bleaching, substantially in the manner and for the above-described purpose.

**68,262.**—J. C. TOBIAS, Helena, Ark.—*Cotton Seed Planter.*—August 27, 1867.—The seed box is hinged to the frame at its fore end, and its rear has a spring, connecting it to the spreader of the handles. The seed is raked out by teeth on oppositely-rotating rollers. The coverer bar is pivoted to the hopper frame and depressed by springs.

*Claim.*—First, the revolving toothed wheel *D* and revolving toothed shaft *F'*, placed within the hopper *A*, in combination with the adjustable elastic plate *F*, underneath the base plate of the hopper, substantially as and for the purpose set forth.

Second, the beam *G*, in combination with the hopper *A*, mounted on wheels *B B*, and connected together, substantially as and for the purpose specified.

Third, the pressure or covering bar *I*, in combination with the harrow *G* and the hopper *A*, provided with the seed-distributing device, all constructed and arranged to operate in the manner substantially as and for the purpose set forth.

**68,263.**—CHARLES T. UMFRIED, Stuttgart, Württemberg.—*Grinding Mill.*—August 27, 1867.—The runner rotates with a horizontal shaft passing through boxes in the adjustable standards, by whose move-



ment the other stones are adjusted. The grain passes from the hopper through two spouts, and passes through ways in the standards and the side stones.

*Claim.*—First, the adjustable standards *s*, to which the open bed stones are secured, having channels *t* and funnels *g*, supporting the traverse *h*, for the purpose described, substantially as specified.

Second, conveying the grain to the stones by means of the channels *t* in the adjustable standards *s*, substantially as described.

Third, the grinding mill, the parts of which consist of the bed stones *a*, runner *b*, adjustable standards *s*, traverse *h*, and vibrating conveyor *k*, when constructed, arranged, and operating substantially as represented and described.

**68,264.**—WILLIAM VAN DYKE and W. W. EASTWICK, Keokuk, Iowa.—*Roofing Composition*.—August 27, 1867.—One part each of the following: lime, sand, bullock's blood, white lead, Roman cement, hair.

*Claim.*—A fire and water-proof paint, which is composed of the several substances mixed together in about the proportions described.

**68,265.**—JAMES C. WALKER, Waco Village, Texas.—*Ship Viameter*.—August 27, 1867.—The water passes by the motion of the vessel through a pipe and water wheel, which is connected with an index finger to indicate the speed by the rotation of the wheel.

*Claim.*—The combination in a viameter of the pipes *A* and *C*, wheel *C*, circular box or sheath *D*, and indicating apparatus, substantially as and for the purpose described.

**68,266.**—GEORGE WALTERS and THOMAS SHAFER, Phoenixville, Pa.—*Pile for Wrought-Iron Beams or Girders*.—August 27, 1867.—Two bars are laid side by side to form the web, and additional narrow strips riveted to the same to form the flanges. The whole is brought to a welding heat and passed between the rolls.

*Claim.*—A pile or fagot for wrought-iron beams or girders, composed of one or more bars for the web, and any appropriate number of bars for the flange or flanges, when the said bars are arranged and permanently secured together by bolts or rivets, as and for the purpose herein set forth.

**68,267.**—GEORGE WALTERS and THOMAS SHAFER, Phoenixville, Pa.—*Pile for Wrought-Iron Beams or Girders*.—August 27, 1867.—Similar to the preceding, except that the flange strips are riveted together and then attached to the web by their edges.

*Claim.*—A pile or fagot for wrought-iron beams or girders, &c., composed of one or more bars for the web, and three or more bars for each flange, when the said bars are arranged and permanently secured together by bolts or rivets, as and for the purpose described.

**68,268.**—OTIS H. WEED, Charlestown, Mass.—*Spring Bed Bottom*.—August 27, 1867.—The slats are attached to metallic springs that engage in straps on the bed rails.

*Claim.*—The slats *C*, so lengthened as to rest upon the springs *b* or *c*, and extending the whole length of the bedstead, in combination with the springs *b* or *c*, passing over the rail and supported by the same, to which they are attached by means of the removable and detached plates *a*, all substantially as described and for the purpose set forth.

Also, attaching the springs of the bed bottoms to the rails by means of the removable and detached plates *a*, substantially as described.

**68,269.**—JOHN DE WITT WEMPLE, Albany, N. Y.—*Refrigerator*.—August 27, 1867.—The reservoir is in the upper part and has a filter and faucet. The ice is placed in a trough between the upper and lower refrigerating chambers, and has a drip trough beneath, conveying the condensed water from the bottom of the ice trough to a receptacle.

*Claim.*—The combination and arrangement of reservoir *W*, filter *H*, ice chest *I*, trough *O*, and faucet *F*, as and for the purpose specified.

**68,270.**—JAMES WHITNEY, Bristol, Vt.—*Washing and Wringing Machine*.—August 27, 1867.—The

clothes are passed backward and forward between two ribbed rollers matching and turning together by a winch connected to the shaft of the upper one. The lower roller has its bearing in a frame pressed upward by rubber springs.

*Claim.*—The combination of the tub *A*, sliding frame *E*, rubber springs *F*, fluted cylinders *B C*, wringer *G*, constructed as described, and the table leaf *N R O* and *P*, as herein set forth for the purpose specified.

**68,271.**—WILLIAM W. WILCOX, Middletown, Conn.—*Strawberry Trellis*.—August 27, 1867.—The upper end of an iron stake has horizontal arms to support the plants.

*Claim.*—The strawberry trellis *a*, made substantially as above described, with an upright post or posts *c*, and branching arms *e*.

**68,272.**—DANIEL WILLIAMS, Saginaw City, Mich.—*Corn Husker*.—August 27, 1867.—The pivoted bar carries a convex-edged knife, and the frame a notch for the reception of the ear. By pressure on the treadle the knife removes the butt of the ear, which may then be slipped out of the husk.

*Claim.*—The construction and arrangement of the cutting plate *G*, upon the pivoted bar *C*, notched and flanged plate *H*, upon the interior stationary frame *D E A*, constructed and operating as herein shown and described.

**68,273.**—SAMUEL C. WILSON, Olney, Ill.—*Churn*.—August 27, 1867.—The dasher has two concavo-convex disks on the same rod. The lower and longer disk has openings through which the cream is thrown up to strike against the upper disk. The dasher staff is adjustably connected to a cross-head which traverses guide rods and is reciprocated by rod connections to crank wrist pins on rotating disks.

*Claim.*—First, the arrangement of the dash rod *B'*, cross-bar *E*, shaft *J*, crank wheels *H H*, connecting rods *I I*, pulleys *L M*, and band *K*, substantially as and for the purpose explained.

Second, the dasher consisting of the annulus *N'* and convex-concave deflector *N*, substantially as described.

**68,274.**—THOMAS H. WOOD, Monroeville, Ohio.—*Carriage Shaft Coupling*.—August 27, 1867.—The larger arm of the reach is of iron and the smaller of steel, the latter acting as a spring. The pivot pin has nibs which traverse notches in the lugs when the points of the thills rest on the ground, but prevent the withdrawal of the pin when the thills are raised.

*Claim.*—The spring *D'*, section of the reach *D*, and pivots *C*, pivoted with nibs *E*, as arranged in combination with the lugs *B* and clip *A*, for the purpose and in the manner set forth.

**68,275.**—JOHN WORDEN, Normal, Ill.—*Washing Machine*.—August 27, 1867.—The beater oscillates within the suds box by motion communicated to a bar between its upwardly extending arms.

*Claim.*—The combination of the beater *G*, having the bars *g'* *g''*, lever *F*, tub *A*, with vertical ends *a'*, inclined sides *a''*, curved bottom *a'''*, and discharge orifice *I*, sliding, wedge-shaped gate *D*, having rubber or equivalent plate attached to its inner side, all constructed and operating substantially as herein set forth for the purpose specified.

**68,276.**—HENRY YERTY, Covington, Ohio.—*Milk House*.—August 27, 1867.—A vertically extended box is let down into the cellar or a dry cistern and has a windlass whose rope carries at one end a milk pan frame and at the other a counterbalance box for the reception of weights. The frame has a vertical series of shelves, which are exposed by opening doors in the box sides when the frame is elevated.

*Claim.*—The within described milk house, constructed substantially as and for the purpose specified.

**68,277.**—G. C. AVERY, Conn's Creek, Ind.—*Gang Plow*.—August 27, 1867.—The horizontal lever is connected to the plow beams by ropes which run over pulleys, and raises the plows, which are suspended, when required, by loops from the frame.

*Claim.*—The hinged levers *D D*, vertical bars *G G*, loops *a a*, cords *g g*, and lever *H*, the whole combined



and operated substantially as and for the purpose herein set forth and described.

**68,278.**—D. W. BASHORE, Palmyra, Pa.—*Lamp Shade*.—August 27, 1867.—The shade fits to the bulb of the chimney and has a reflective inner surface. It comes sufficiently low to allow rays of light to expand above it.

*Claim.*—The narrow shade B, with reflecting inner surface so constructed as to rest upon and closely surround the bulb of a lamp chimney, with its upper opening large enough to not materially obstruct the ascending rays of light.

**68,279.**—W. A. BEMIS, Spencer, Mass.—*Cheese-Curd Cutter*.—August 27, 1867.—The curd is placed in the box and forced through its wire work bottom; the knife frame being reciprocated, slices the curd.

*Claim.*—First, the employment of the double-edged knife G, in combination with the sliding frame A, as and for the purpose set forth.

Second, the employment of the boards E E, in combination with frame D and knife G, all arranged to operate in connection with box A, as and for the purpose specified.

**68,280.**—FREDERICK BINDER, Baltimore, Md., assignor to himself and WM. RICHARDSON, same place.—*Hedge Trimmer*.—August 27, 1867.—The single blade engages in the slotted blade, which has two bearings for steadying the twigs as they are cut.

*Claim.*—The straight-edged single blade A operating in combination with the straight-edged double or slotted blade B, substantially as and for the purpose described.

**68,281.**—EDWARD W. BRETTELL, Newark, N. J.—*Permutation Lock*.—August 27, 1867.—After throwing out the bolt a flat wire is passed into the recesses of the circular springs, thereby spreading them apart and bringing them opposite to the check on the lever. The knob is pulled out and turned to any figures desired. The wire being removed the circular springs will resume their position, holding each disk to the number or letter to which it has been set. The bolt is next thrown out and the knob turned round three or four times and it is locked, and can be opened only by the figures or letters by which it has been set.

*Claim.*—First, the wheel W, the stumps  $s^4$  and  $s^5$ , the recess  $R^1$ , and cap K, with its stumps  $s^1$  and  $s^2$ , as shown in Fig. 1, plate 2, and Fig. 3, plate 1, when arranged in the manner and for the purpose herein set forth.

Second, the lever L, with recess  $R^3$  and check  $c^1$ , as shown in Figs. 1, 7, plate 2, substantially in the manner and for the purpose herein set forth.

Third, the cross-bar I, with its stump  $s^3$ , also the tumbler T, as shown in Figs. 1 and 2, plate 1, in the manner and for the purpose herein set forth.

Fourth, the swiveling dog G and the claw socket L, as shown in Figs. 1 and 2, plate 1, and Figs. 5 and 6, plate 2, when arranged in the manner and for the purpose herein set forth.

**68,282.**—CHARLES BROWN, Buffalo, N. Y.—*Baling Short-Cut Hay, &c.*—August 27, 1867.—Straw is used as a binder for enclosing short hay in baling.

*Claim.*—First, pressing and binding short-cut hay and straw into compact bales as a new article of manufacture, trade, and commerce, substantially as described.

Second, the application and use of straw or hay as a binder on the top and bottom of the bale, substantially as set forth.

**68,283.**—E. W. BULLARD, Barre, Mass., assignor to himself and J. W. JENKINS, Jr., same place.—*Horse Rake*.—August 27, 1867.—The double-kneed pivoted lever rotates the teeth till they fall over by their own gravity.

*Claim.*—First, the combination with the arms I and  $p$  of the guide piece J, hook K, and holding and revolving piece 9, substantially as and for the purpose set forth.

Second, the combination with the arm I and flanged hub M of one or more forks 10, substantially as and for the purposes set forth.

Third, the combination with the hooks K, and suitable mechanism for operating the same, of the flanged

hub M and the folding piece 9, mounted upon the axle or rake head, substantially as set forth.

Fourth, the combination with the arms I and  $p$  of lever H, with one or two forks  $m$ , and one or two arms 5, under the arrangement and for operation substantially as and for the purposes set forth.

Fifth, the combination with lever H and arms I and  $p$  of the spring L, arranged and operating substantially as and for the purposes set forth.

Sixth, the combination with the axle or rake head of one or more rake teeth G, attached to the rake head as described, and provided each with a rear curve from  $c$  to  $d$ , a front curve from  $e$  to  $c$ , and a shank  $f$ , substantially as and for the purposes herein shown and set forth.

**68,284.**—CORNELIUS BURLEW, Lock Haven, Pa., assignor to himself and THORNTON SMITH, Washington, D. C.—*Concrete and Tile Paving*.—August 27, 1867.—Composed of gravel, 35; coal ashes, 10; hard cinders, 10; coarse sand, 20; water cement, 2; coal tar, 5; salt, 2; iron filings, 2; pine tar, 5; rosin, 4; glue, 1; quicklime, 4 parts.

*Claim.*—First, the mode, substantially as set forth, of compounding and preparing concrete blocks for paving.

Second, the mode of laying pavements by the use of concrete blocks imbedded and united substantially as set forth.

**68,285.**—MILO S. BURR, Boston, Mass.—*Nursing Bottle*.—August 27, 1867.—The tubular stopper has a flexible leather tube extending up from the bottom of the bottle, so that it may nearly empty the bottle without drawing air. A nipple is attached to the projected end.

*Claim.*—The mouth guard, the tube and nipple connection combined or made of one piece of wood or other material, as set forth.

Also, the tube and nipple connection E, provided with the auxiliary shoulder  $d$ , as and for the purpose set forth.

**68,286.**—C. M. CARLETON, Forester, Mich.—*Washing Machine*.—August 27, 1867.—The vertical roller frame is reciprocated by gearing and cranks between a yielding surface and an endless apron stretched on rollers, and backed by a series of smaller rollers.

*Claim.*—First, the combination of the rubber F and rollers C C and  $d d$ , and belt E, with the bars G I and  $y$ , with their set screws and springs, as and for the purpose set forth.

Second, arrangement of clutch pulley R, band T, and shaft W with its pulley, with the endless belt E, or its equivalent, and rubber F, as and for the purpose set forth.

**68,287.**—WILLIAM E. CATLIN, Wayne township, Pa.—*Musical Scale*.—August 27, 1867.—The wrapper encloses the edges of the sliding piece. The musical scale is placed on both sides of the wrapper, so as to represent all the half steps of the staff. Near the left end and in the right end of the wrapper are cut oblong places. On one side of the scale the flats are placed near the left; near the right the syllables are used in transposition by the flats. The "teacher," when closed, represents the natural key or scale of C natural. By drawing the slide to the right, one side shows 1, 2, &c., flats through the oblong opening of the wrapper, and the corresponding changes in the key note syllables appear at the end opening.

*Claim.*—The construction and use of my transposition teacher, as and for the purpose set forth.

**68,288.**—A. W. COATES, Alliance, Ohio.—*Horse Rake*.—August 27, 1867.—The rake teeth are operated by the toggle in connection with the crooked pivoted lever.

*Claim.*—The toggle H, constructed as described, whereby the rake teeth are held down, when the arms  $d d'$  are in line, or nearly so, with each other, and lifted by drawing up the handle  $e$ , which raises the inner end of the arms  $d d'$ , the weight of the driver assisting, substantially as herein shown and described.

**68,289.**—CHARLES J. CORLETT, WARREN D. SHERMAN, NICHOLAS A. WOLFE, and CHARLES HUSTON, Clarkston, Mich.—*Sheep Shearing Table*.—Au-



gust 27, 1867.—The sheep being laid on the table, the cords attached to the rotating wheel fasten the hind legs. The curved spring hook holds its neck, and the cord and snap secure the front legs to the eye bolts on the table.

*Claim.*—The combination and arrangement of the revolving wheel A, the cords B B, the snap C, the cord D, the eye bolts E, the hook E F, the hooked lever H, with the adjustable table K, all arranged substantially as described and for the purpose designed.

**68,290.**—CHARLES C. CREEK, Liberty, Ind.—*Cultivator.*—August 27, 1867.—In the hind plows the mold board and ground bar are in one piece. Beside these plows run the cutter wheels, having radial bars to prevent clods from rolling on young plants. The two side sections are hinged together so as to allow of lateral adjustment, and of a certain independent play. The tongue is vertically adjustable.

*Claim.*—First, the provision, in a corn plow or cultivator, of a sifter wheel D, constructed and attached substantially as shown and described.

Second, the plow irons B B', having the element b b' b'', arranged as shown and described.

Third, the arrangement in a corn plow or cultivator of the adjustable bar G, with its bolt and nuts F f, substantially as set forth for the purpose specified.

Fourth, in combination with the adjusting bar G F f, the adjusting arrangement W Y y of the tongue on the beam.

Fifth, the frame R, consisting of the elements S s t, in combination with the racks U U and chains V V, admitting of a slight forward or retrograde movement in the plows B B' in respect to each other and the beam H.

**68,291.**—FOLSOM DORSETT, Chicago, Ill.—*Curing and Preserving Grain.*—August 27, 1867.—The grain is ricked in an open upwardly flaring frame, and is traversed by small lattice work frames, whose ends are closable by doors. The roof is made in sections attached together by hooks and staples.

*Claim.*—First, a system of ventilating frames A A', used in stacks of hay, grain, &c., said frames being adjustably closed by doors B, and arranged to operate substantially as set forth.

Second, the combination of such a system of adjustable ventilating frames and an adjustable sectional roof in stacks, &c., of hay, grain, &c., substantially as set forth.

**68,292.**—WILLIAM H. ELLIOT, New York, N. Y.—*Hammer for Breech-loading Fire-arms.*—August 27, 1867.—The pivot of the hammer is set so high that the force of the discharge will not raise it, and it acts as a combined hammer and breech piece. The face of the hammer is so formed that the lower edge will adjust the cartridge, if necessary, before the firing point comes in contact.

*Claim.*—First, in those arms in which the hammer receives the force of the charge as a breech plate, and is pivoted to the arm in a rearward direction from the chamber, projecting the lower portion of the face forward, substantially as and for the purpose herein described.

Second, so arranging and constructing the face of such hammer and the firing point and hammer pivot in relation to each other that the cartridge will be adjusted to its place in the chamber, as herein set forth.

**68,293.**—ANDREW ERKENBRECHER, Cincinnati, Ohio.—*Corn Elevator.*—August 27, 1867.—The standards have journal bearings for a hollow trunnion that supports the adjustable oscillating carrier. The trunnion affords journal bearing for a driving shaft that actuates the corn elevating endless apron.

*Claim.*—The arrangement of adjustable carrier C, having an endless apron I, and having its driving shaft D enclosed within the hollow trunnion B, which upholds the said carrier, and about which it oscillates, substantially as set forth.

**68,294.**—ANDREW ERKENBRECHER, Cincinnati, Ohio.—*Apparatus for Drying Starch.*—August 27, 1867.—The trucks have a series of shelves floored with unglazed tiles to receive the blocks of starch, and are moved on tracks from the loading to the dry-

ing room, which has chambers containing steam heaters.

*Claim.*—First, the provision, in a starch drying apparatus, of a series of racks K, formed to run on tracks F and J, within and without the drying room, and which communicate, by a similar track, upon a truck H, which occupies a depressed track or railway J, substantially as set forth.

Second, the arrangement of drying room or rooms A B, ventilators C D, steam heating pipes E, elevated tracks F and J, depressed track I, truck H, and racks K, for the purpose set forth.

**68,295.**—JOSEPH TANDLER, Grand Rapids, Mich.—*Trip Hammer.*—August 27, 1867.—The hollow on the grooved wheel runs out on the side so that when the draft cord has reached that part it slips off and the hammer falls to its work.

*Claim.*—First, the combination of the hammer C with its several parts, with the adjustable spreader F, substantially as described for the purpose specified.

Second, the adjustable spreader f, arranged and connected as described.

Third, the gripping arrangement, substantially as shown in Fig. 3, combined with the hammer, as and for the purposes set forth.

Fourth, the upsetting wheel J, and the pulley r connected to the frame A, and operated in the manner described.

**68,296.**—T. T. FLEMING, Memphis, Tenn.—*Cotton Scraper.*—August 27, 1867.—The supporting bars facilitate the vertical adjustment and the projecting knife the lateral regulation of the scraper.

*Claim.*—First, the combination of the blade or share a, standard B, bar D, and plate or shoulder C, all arranged substantially as and for the purpose set forth.

Second, the knife E applied to the rear of the blade or share, substantially as and for the purpose specified.

**68,297.**—DAVID A. FREEMAN, Belleville, Mich.—*Corn Marker for Planting.*—August 27, 1867.—The axle carries four marking wheels which are adjustable laterally by collars on the axle, which is hinged to allow accommodation to rough ground or passage through gates.

*Claim.*—The combination and arrangement of the axle A, provided with joints B B, the frame C, the seat D, the wheels E E E E, collars a a a, &c., and the set screws g g g, &c., and the beveled lugs H H H, &c., all arranged substantially as described for the purpose designed.

**68,298.**—D. L. GIBBS, Worcester, Mass., assignor to R. BALL & Co., same place.—*Mortising Machine.*—August 27, 1867.—The table is adjustable vertically and laterally by hand wheels and screws and admits of any required inclination to give the dish to the spokes. Two stop pieces have sliding attachment to the front of the table, and are vertically adjusted by a lever whose end has a pin entering any one of a series of holes in a curved bar, to depress either one of these stop pieces, and cause its contact with a set nut, when the hub is in position for cutting the fore or rear ends of the mortises respectively. Further devices are mentioned in the claims.

*Claim.*—First, the combination with the sliding frame 18 and rod L of levers K' L' and weight L'', said parts being arranged to operate in relation to each other, substantially as and for the purposes set forth.

Second, the combination with the sliding frame 18 of the adjustable pieces M M, slotted cross pieces N N, adjusting bolts 29, as and for the purposes set forth.

Third, the combination with the weighted sliding frame and levers and connecting rod for actuating the same, of a spring attached to said connecting rod, under the arrangement and for operation as herein described.

Fourth, the combination of stand d, stationary screw e, gears a b, shaft D with the sliding piece B, substantially as and for the purpose set forth.

Fifth, the combination with the sliding plate B of the bed E, carrying the bearing C and stay brace 7, in the manner and for the purpose herein described.

Sixth, the combination with the table of a mortis-



ing machine of the vertical sliding pieces *j* and lever *G*, substantially as and for the purposes set forth.

Seventh, the combination with the table *F* of the vertically sliding pieces *j*, provided with projections *k*, and screws *m'*, and the lever *G*, or its equivalent, and perforated plate or stand *o*, under the arrangement and for operation as herein shown and described.

Eighth, the combination in a machine as described, with the sliding piece *j* and lever *G* of the stationary screw *m*, and adjusting or stop nuts *l l'*, the whole being arranged and operated as herein specified so that mortises may be cut either in or out of line as desired.

Ninth, the combination with the catch wheel *H''* provided with beveled recesses of the spring lever *A'* and beveled pin *o''*, arranged for operation in a hub mortising machine, as and for the purposes stated.

Tenth, the combination with the sliding piece *B* and bed *E* of the lever *I'*, in the manner herein described, so that the lever will be raised and lowered with the bed, substantially as and for the purpose set forth.

Eleventh, the combination with the bed *E* and the lever *I'* of the flat half-twisted spring *I'''*, substantially as and for the purposes set forth.

Twelfth, the combination of slotted stop pieces *22*, or their equivalent, with slotted piece *K*, substantially as and for the purposes set forth.

Thirteenth, the combination of the slotted piece *K* and adjustable catch pieces *22* with frame *A* and lever *I'*, for the purposes set forth.

**68,299.**—JOHN GROSSINS, Cincinnati, Ohio.—*Heating Stove*.—August 27, 1867.—A cold air chamber runs athwart the middle of the stove and communicates with the air at the sides thereof. It provides a draft of fresh air for the better consumption of fuel and smoke.

*Claim.*—The arrangement in a heating stove of the plates *C D E F*, apertures *e g*, and exit pipe *J*, as and for the purpose herein described and illustrated.

**68,300.**—THOMAS F. HALL and GEORGE ECKEL, Richmond, Ind.—*Cover for Cooking-stove Boilers*.—August 27, 1867.—The boiler cover has a water chamber which is supplied through a funnel. Another funnel passes through both plates of the cover and conducts water to the boiler.

*Claim.*—In combination with the cover *A A'*, the water chamber formed over the plate *A'*, and constructed with two funnels, one, *C*, opening through the upper chamber into the boiler below the cover, the other, *D*, opening into the upper chamber, and with the eduction pipes *E*, substantially as and for the purpose set forth.

**68,301.**—MARTIN HUNKLEY, Rochester, N. Y., assignor to himself and M. R. BALLINTINE.—*Power Hammer*.—August 27, 1867.—The hammer is raised by a convolute spring and depressed by the treadle, which is hinged to the side of the frame and attached to the hammer shaft by a lever, connecting rod, and screw coupling.

*Claim.*—First, the set screw *s*, adjustable hammer bar *B*, in combination with the straight indented hammer shaft *S*, all constructed and arranged as and for the purposes set forth.

Second, in connection with the hammer shaft *S*, the arrangement herein described of the convolute spring *C*, screw coupling *c*, connecting rod *f*, and lever *b*, as and for the purposes specified.

Third, the arrangement of the adjustable stop *r* and guide plate *n*, in connection with the coupling plate *w*, as and for the purposes specified.

**68,302.**—RALPH S. JENNINGS, Philadelphia, Pa., assignor to himself and CHARLES D. MACQUEEN, same place.—*Playing-Card Board*.—August 27, 1867.—The board has a central space for playing the cards, four spaces into which to deal the cards for the players, and four tally indices.

*Claim.*—A playing-card board constructed in sections, as described, and having compartments *E*, with finger holes therein, for taking up the cards, and disks and pointers *G G* and *H H*, all arranged and combined substantially as and for the purposes set forth.

**68,303.**—L. J. KNOWLES, Warren, Mass.—*Harness Motion for Looms*.—August 27, 1867.—The two

sets of disk cams are arranged on two shafts. The edges of the disks are cam-shaped, and each heddle lever has its pin or roller acted on by and between each of two opposite disks, making a co-operative pair. The heddle levers may thus be located in a space that is determined by the thickness of the levers plus that of the projections of the heddle-lever pins.

*Claim.*—The combination with the heddle levers of a loom, the arrangement of disk or plate cams in pairs with respect to each heddle lever and the pins thereof, so that both disks may act continuously upon the pins, substantially as described.

**68,304.**—WILLIAM MORSE, Boston, Mass.—*Line Holder*.—August 27, 1867.—The pivoted jaw is closed on the line by the pivoted cam lever raising the rear arm of the jaw.

*Claim.*—First, in combination with the piece *a*, serpentine or corrugated holding pieces *b d*, substantially as and for the purpose set forth.

Second, in combination with such holding pieces and with the piece *a*, a movable device arranged to operate substantially as described.

**68,305.**—GILMAN MOULTON, Cambridge, Mass.—*Bill Holder*.—August 27, 1867.—The spring attached covers automatically close and the loose cover opens back for convenience of examination.

*Claim.*—The hinged and spring connection of the two parts of a bill-holder cover, substantially as described.

Also, in combination with the two covers *a* and *b* of a bill holder, of pockets and a flap *K*, substantially as described.

**68,306.**—J. NASON and J. F. WILSON, Boston, Mass.—*Gate for Railroad Crossings*.—August 27, 1867.—The gates are secured to rotating posts and simultaneously opened by the action of a rope on the grooved pulleys that surround the posts.

*Claim.*—The combination of the rotary gates supporting shafts or sleeves and their pulleys and connecting band or chain with reference to the stationary posts and relatively to each other, the pulleys and their operating mechanism being arranged below the track or road bed and operating together to simultaneously open or close the gates, substantially as set forth.

**68,307.**—PETER NEFF, Cincinnati, Ohio.—*Table Knife*.—August 27, 1867.—The shoulder washer is slotted for passage of the tang and is slipped on, previously to attachment of the handle.

*Claim.*—The combination of the blade *a* and tang *B*, cut out of a single piece of steel and having shoulders *a a'*, the handle *C* having a slot or recess *c*, and the slotted bolster *E e* secured upon the tang *B* between the shoulders *a a'* and the end of the handle, all as herein described.

**68,308.**—DANIEL NEWTON, Southington, Conn.—*Hitching Posts for Animals*.—August 27, 1867.—The inclined arm to which the rope is secured rotates on its pivoted connection as the animal moves round.

*Claim.*—The several parts shown at *A, B, C, D*, and *E*, when constructed and arranged as set forth.

**68,309.**—NATHAN S. NOYES, Plymouth, Mich.—*Potato Digger*.—August 27, 1867.—The potatoes are turned up by the plow and, in passing over the shaker, are subjected to the action of raking pins on an endless belt.

*Claim.*—First, the perpendicular motive given to the grating *C*, for the purpose described.

Second, the combination and arrangement of the frame *A*, seat *B*, grating *C*, endless belt *D*, connecting rod *E*, pulley *F*, eccentric wheel *H*, plow *K*, collar *L*, shaft *L*, driving wheel *M*, drum *N*, spring *O*, wheels *P P*, wheel *R*, lever *S*, bail *T*, frame *U*, belts *V W*, arranged substantially as described, for the purpose designed.

**68,310.**—HALBERT E. PAINE, Milwaukee, Wis.—*Steam Plow*.—August 27, 1867.—The draft ropes from the actuating drums of the engines at opposite sides of the field are connected to the gang plow so that both engines operate to draw the plow at the same time.

*Claim.*—First, the device for operating a gang-plow



spader or digger, with or without an accompanying harrow or seeder, by means of two stationary engines located on opposite sides of the section to be plowed and connected by ropes passing around drums and wound upon and from them in the manner and to the effect set forth.

Second, the construction and combination of the drums L M L M, actuated by separate engines but connected and co-operating in the manner set forth.

Third, the arrangement on one shaft of the winding drums L M and the hoisting drum N, substantially in the manner and for the purpose set forth.

Fourth, the arrangement, substantially as set forth and described, of the gear wheels J and K and their shafts so that power to move the engine from place to place may be transmitted to the bearing wheels through the same mechanism which operates the plow.

Fifth, the derrick R, with its fall rope Q, constructed substantially as shown, and operating substantially in the manner and for the purpose set forth.

Sixth, the anchor T, constructed and operating as set forth and described.

Seventh, the rectangular gang of plows used to plow without ridging, and constructed and operating as shown and described.

Eighth, the triangular gang of plows used for ridging, and constructed and operating as shown and described.

**68,311.**—JONATHAN PEACOCK, Rockford, Ill.—*Barrel-Washing Machine.*—August 27, 1867.—Improvement on his patent of March 13, 1866. The barrels are clamped in the frames that turn on pivots in journals in an iron frame. The barrels are arranged at an angle to their line of rotation by a clamp with a corrugated surface that curves to suit the bulge of the barrel. To vary the angle to the plane of rotation of all the barrels simultaneously, the clasps are mounted in circular guide ways on the clamping rails so that they may vibrate in arcs of which the axis of rotation of the frame forms the center.

*Claim.*—First, the combination with the reservoir or trough of the discharge valves, the rocking lever, and the catch, all arranged and operating as described.

Second, the combination with the trough of the pipes, the lifting frame, and the catch, all constructed, arranged, and operating as described.

Third, the combination with the water trough of the balance valve P, constructed and arranged as described.

Fourth, the combination with the clamping rails *c'* of the serrated fixed clasps G, for holding the barrel at an angle to the plane of rotation, as described.

Fifth, the combination with the clamping rails of the vibrating clasps *h*, arranged and operating as described.

Sixth, the combination, substantially as described, of the holding rails, the vibrating clasps, the slide bars, and the balance lever.

Seventh, the combination of the latch lever or detent *t* with the driving shaft, as described.

**68,312.**—E. J. PIPER and J. C. MARSHALL, Springfield, Mass.—*Steam-Engine Slide Valve.*—August 27, 1867; antedated August 15, 1867.—An adjustable gib fits against the valve chest and is regulated by set screws, to decrease the friction and wear on the valve.

*Claim.*—In combination with the valve B, the gib *a*, arranged substantially as described and adjustable from the outside of the valve chest, as herein set forth.

**68,313.**—BURDET C. ROUSE, Morris, Ill.—*Plow.*—August 27, 1867.—The round rotary steel cutter is attached to the shear bar and moves horizontally by the forward motion of the plow.

*Claim.*—The rotary landside cutter, in combination with the shear bar at its point B, and arranged in the manner and for the purpose above set forth.

**68,314.**—L. W. SAPP, Cleveland, Ohio.—*Mechanical Power applied to Sewing Machines.*—August 27, 1867.—The power is derived from a coiled spring and communicated by a train of gearing to the machine. It is controlled by a governor and stopped by a brake which brings a pressure on the periphery of the wheel.

*Claim.*—The driving mechanism provided with controlling and regulating devices, constructed, ar-

ranged and combined with a sewing machine, substantially as and for the purpose set forth.

**68,315.**—W. F. SERJEANT, St. Louis, Mo.—*Railway Switch.*—August 27, 1867.—The railroad switch is operated by devices upon the train under the control of the engineer in going ahead and operatable by the brakeman in the rear when backing. Shoes on the train come in contact with levers projecting from the switch rail sections to move the latter into continuity with the rail on which the cars are approaching.

*Claim.*—First, a double locking automatic railroad switch, which is constructed in the manner and upon the principles substantially as herein set forth.

Second, the longitudinal levers D D, arranged on both sides of the track, and extended alongside of the siding or turnout, said levers being provided with segment levers H, and constructed so as to be acted upon by keys G<sup>2</sup>, upon a moving train, and caused to change the switch at the pleasure of the engineer, substantially as described.

Third, the expansible keys G<sup>2</sup>, constructed substantially as and for the purposes described.

Fourth, the anti-friction roller *f'*, applied to the key G<sup>2</sup>, substantially as and for the purpose described.

Fifth, the combination of segment levers H, the switch levers D D, and the connection of such segment levers, with locking devices, so that the switch rails shall be automatically locked and unlocked, as well as changed from right to left, by means substantially as described.

Sixth, the locking levers N N, applied to a rock shaft K', and connected by means of chains and rods with devices applied to the switch rail levers, substantially as described.

**68,316.**—C. L. SHELDON, Lowville, N. Y.—*Apparatus for Cooling Milk.*—August 27, 1867.—The water runs into the hinged receiver and empties intermittently into the trough. As it falls the plunger in the vat is raised, disturbing the milk, and the plunger falls again as the receiver raises.

*Claim.*—The use of a water receiver *a d*, so constructed that it shall receive the water at one extremity, and, when wholly or partly filled, empty its contents at its opposite extremity, and in this act of descent and discharging impart motion to the plunger *k*; also the use of the plunger *k*, when the same is used as an attachment for agitating milk in cheese vats.

**68,317.**—GEORGE P. SISSON, Florence, Mass.—*Clothes Dryer.*—August 27, 1867.—The adjustable radial arms are raised for compactness or depressed for use. Their inner ends are connected by links to a nut which traverses on the central screws to adjust the arms.

*Claim.*—A clothes' drying reel, in which the arms are operated by means of a screw arranged in the center.

**68,318.**—JACOB D. SPANG, Dayton, Ohio.—*Gas Heating Apparatus for Sadirons.*—August 27, 1867.—The gasoline passes from the upper reservoir, is heated in the pipes, escapes at the burner and heats the inner perforated chamber within the outer casing, which has cells for the sadirons.

*Claim.*—First, the burners C, having the slits *c c*, and the central button *x*, combined and arranged together, substantially as and for the purpose described.

Second, the screen D, having clusters of apertures *d d d*, as and for the purpose described.

Third, the arrangement and combination of the burner C, screen D, and chamber E, having the heating compartments *e e e*, substantially as and for the purpose specified.

**68,319.**—CHARLES F. SPENCER, Rochester, N. Y.—*Fruit Jar.*—August 27, 1867.—Explained by the claim.

*Claim.*—A ready-formed cover or stopper for fruit, jelly and other jars or cans, made of paper, cloth, or other easily penetrable material, prepared so as to be air-tight and having its surface provided with gum or other adhesive substance so as to be self-attaching, self-sealing, and self-retaining, substantially as and for the purpose herein specified.



**68,320.**—DAVID STAPLETON, Iowa City, Iowa.—*Sheep Rack.*—August 27, 1867.—The outer rack is intended to prevent crowding and waste. The hay is placed beneath the pivoted rack, which settles down on the hay as it decreases.

*Claim.*—First, the loose rack G H I, and its bearings b and c, in a sheep rack, substantially as and for the purpose described.

Second, the sheep rack, constructed with the loose rack, the vertical pieces I of which fit between its vertical pieces or boards D, substantially in the manner and for the purposes described.

**68,321.**—SIMON STEVENS, New York, N. Y.—*Production, Manufacture and Application of Carbonic Acid.*—August 27, 1867.—A jet of hydrocarbon liquid, in combination with air, steam, or both, is injected into a combustion chamber.

*Claim.*—First, the process of preparing carbonic acid herein described.

Second, the use of carbonic acid prepared in the manner herein described, for the improvement of the several processes and manufactures herein specified.

Third, the compound formed by mixing hydrocarbon spray with air or air and steam for producing motive power in gas and other engines, substantially as herein set forth.

**68,322.**—GEORGE ST. GEORGE, Jr., New York, N. Y.—*Construction of Barrels.*—August 27, 1867.—A raised portion is left on the head to receive the brand and may be chipped off when desired to remove the said brand.

*Claim.*—Constricting a barrel with raised surfaces made on the head or heads or other suitable part thereof, substantially as and for the purpose herein set forth.

**68,323.**—ANDREW THOMPSON, Ottumwa, Iowa.—*Trace Attachment.*—August 27, 1867.—Attached to the trace is a metallic point with ratchet teeth which engage the clasp for fastening the trace.

*Claim.*—A metal harness trace point B, having ratchet teeth b b, or their equivalents, in combination with a spring clamp d, for fastening the trace, constructed, arranged, and operating substantially as and for the purpose herein described.

**68,324.**—W. B. TUCKER, Hillsboro, Ohio.—*Watch Regulator.*—August 27, 1867.—The spiral screw connecting with the regulator of the watch has an indicator and stem for the watch key which actuates the regulator.

*Claim.*—Operating the regulator of a watch or other timekeeper by means of an attachment thereto composed of the scale base plate a, supporting knobs b b', horizontal screw shaft c, toothed wheels d and e, winding arbor f, and the attaching and indicating nut g, all arranged and operating substantially in the manner herein set forth.

**68,325.**—THOMAS WELHAM, Philadelphia, Pa.—*Water Wheel.*—August 27, 1867.—The water follows a spiral course within the coneave, and acts by friction upon the periphery of the enclosed wheel.

*Claim.*—The friction water wheel C, constructed and inclosed in a case, as herein described.

Also, the flanges A, of the water-tight casing B, said flanges forming a passage entirely around the circumference of the wheel C, as herein shown and described.

**68,326.**—ALCIBIADES J. WHITTIER, Roxbury, Mass.—*Mosquito Bar and Window Screen.*—August 27, 1867.—The lower end of the netting is secured to the sill by a bar which is bolted to the stiles. The upper edge is wound on a spring roller within a case beneath the lower sash bar.

*Claim.*—The hook d, and the bolts a, or their equivalent, when applied and arranged for operation substantially as and for the purpose set forth.

**68,327.**—HENRY S. WILCOX, West Meriden, Conn.—*Car Platform.*—August 27, 1867.—The platform and rail consist of broad metallic plates secured by clasp joints. They expand and contract to conform to the motions of the cars, and oppose the transit of passengers while the cars are in motion.

*Claim.*—The car platform constructed with plates

a a', railing f f', supported by the posts e e, and secured to the cars by bolts or screws, all constructed and arranged substantially as described and for the purpose set forth.

**68,328.**—HENRY A. WILLIAMS, St. Louis, Mo., assignor to himself and BENJAMIN H. CHADBOURNE.—*Refining Sugar and Sirup.*—August 27, 1867.—To 100 gallons of cane juice, neutralized by milk of lime, is added the following: Tannic acid,  $\frac{1}{4}$  ounce; powdered slippery elm bark,  $\frac{1}{4}$  ounce; sulphite of lime, 4 ounces; alumina, 4 ounces. It is then raised to a boiling heat, skimmed, filtered, and boiled down for sugar or molasses.

*Claim.*—A combination of the ingredients used in preparing said compound, in about the proportions herein named, and for the purpose set forth.

**68,329.**—A. J. COMBS, Olney, Ill.—*Corn Coverer.*—August 27, 1867.—The plows throwing up the two sides of the ridge are followed by a loosely pivoted roller that adjusts itself to the inequalities of the ground.

*Claim.*—The combination of the frames A and E, handles C, roller F, and shovels B, all arranged and operating in the manner and for the purpose set forth.

**68,330.**—WILLIAM DUCHEMIN and ALBERT JEFFERS, Lynn, Mass.—*Manufacture of Boots and Shoes.*—August 27, 1867.—The leather is closed down upon the stitching, compressing it till it is buried therein. The leather is also compressed to make the joint imperceptible from the outside. The gauged gouge forms the channel for the stitching.

*Claim.*—The peculiar construction of the tool for forming the above mentioned channel and turning its edges, consisting of the bar A, formed at its lower end into the cutter A, the beak or plowshare b, and the mold board or boards c, substantially in manner and to operate as specified.

**68,331.**—ANDREW O'NEILL, Portsmouth, Ohio.—*Sheet Copper Plates for Culinary Vessels.*—August 27, 1867.—The sheet is coated on the outside with the following: Best enamel varnish, 1 gallon; demar varnish, 2 $\frac{1}{2}$  pints; spirits turpentine, 2 $\frac{1}{2}$  pints; venetian red, 4 $\frac{1}{2}$  pounds. This varnish is applied with a brush. After drying, the sheets are passed between cylindrical rolls of polished steel.

*Claim.*—As a new article of manufacture a sheet of copper tinned, varnished, and cold rolled, in the manner set forth.

**68,332.**—THADDEUS HYATT, New York, N. Y., assignor to ELIZABETH ADELAIDE LAKE, same place.—*Illuminating Roofs and Roof Pavements.*—August 27, 1867.—Sections of glass are secured in iron frames to make a pavement that will keep out the weather but allow the ingress of light. The devices are cited in the claims.

*Claim.*—First, forming the approaches over an areaway to the doorways of a building from the sidewalk by means of a solid translucent bridging of iron and glass, which serves the double purpose of stoop and roof, substantially as herein described.

Second, uniting the "areaway" to the basement of a building by a water-tight roof of iron and glass so combined as to form a generally flush surface fit for walking upon and laid in the plane of the sidewalk, substantially as described.

Third, uniting the basement of a building to the space under the street by means of a translucent water-tight roofed areaway when the glass and iron which compose the roof are so combined as to form a generally flush surface fit for walking upon and are laid in or nearly in the plane of the sidewalk, substantially as herein set forth.

Fourth, combining an area light with the sidewalk and a building by means of a double cemented joint made with putty or its equivalent and fusible cement substantially as herein set forth.

Fifth, combining the glass of a roof light with the iron framing of the same by means of a double cemented joint, substantially as herein described.

Sixth, an illuminating roof of iron and glass where the iron which supports the glasses in position forms the general strength of the roof, the combination being such as to secure the two-fold object of equal-



zing and distributing the strength of the iron while distributing and equalizing the light of the glasses.

Seventh, an illuminating step roof composed of glass and iron; that is to say where the iron and glass are composed into illuminating sills and illuminating risers, and these are again combined to form an illuminating roof, substantially in the manner and for the purposes herein set forth.

**68,333.**—A. W. WASHBURN, Yazoo City, Miss.—*Vaginal Syringe*.—August 27, 1867.—The head of the syringe has a concave convex flange and central discharge. The flange is made with a rounded edge and of non-oxidizable metal.

*Claim.*—The enlargement of the immediate entering head of a syringe to such an extent as to produce an annular flange radiating the desired distance beyond the barrel or conducting tube of the same and thereby producing the improved vagina syringe herein represented and described or any other which shall be substantially the same.

**68,334.**—E. ALLEN and J. BRADY, Norwich, Conn.—*Door Lock*.—September 3, 1867.—The two opposite sets of tumblers are connected by spiral springs, and when in position are operated by the one key.

*Claim.*—First, the combination of the two opposite sets of tumblers, the key I, notched on both sides or edges, and the cam D applied to operate simultaneously on both sets of tumblers, substantially as and for the purpose specified.

Second, the cam D constructed with teeth *g*, the sliding frame furnished with bolts G and spurs *h*, and the two opposite sets of tumblers, arranged to operate in relation with each other and with the key I, springs *c*, and stop *n*, substantially as and for the purpose specified.

**68,335.**—ALEXANDER APPLEBY, Brownfield, Me.—*Preparing Tan Bark for Use*.—September 3, 1867.—The bark is steamed to render it flexible; the outer portion is rossed off in a planing machine and the remainder baled under pressure and bound for transportation.

*Claim.*—Bark prepared by being rendered flexible and flattened and reduced by means substantially as described.

Also, the process as hereinbefore specified for preparing bark for transportation and use as explained, such consisting in rendering the bark soft and flexible by moisture or steam, and next flattening it and removing from it the ross, by means as set forth or the equivalent thereof.

**68,336.**—JOHN ATWOOD, Jr., Provincetown, Mass.—*Rig for Sloops and Schooners*.—September 3, 1867.—When the additional mast is lowered, its lower end enters an aperture in the deck, to which it is secured.

*Claim.*—First, in combination with the stationary mast A the secondary or additional mast B when the latter is so arranged as to be capable of being firmly fixed to the deck and form a support to the stationary mast, or of being raised so as to form a continuation of the said stationary mast, as and for the purpose specified.

Second, in combination with the secondary mast B, the guides *a a*, the eyes *b*, and crosstree *c*, as described.

**68,337.**—WILLIAM ATWOOD, Cape Elizabeth, Maine.—*Rotary Engine*.—September 3, 1867.—The chamber has inclined and horizontal parts on the inner side of the cylinder head, the highest parts on one head corresponding to the lowest parts on the other. The rotary piston has slots and alternating wings vibrating in the slots.

*Claim.*—First, the construction of the chamber, having inclined and horizontal portions on the interior faces of the cylinder heads, as and for the purposes described.

Second, the rotary piston D, with its slots and alternating wings E, as and for the purposes described.

Third, in combination with the cylinder chamber, the rotary piston and alternating wings, the arrangement of the four ports of the cylinder, substantially as and for the purposes described.

**68,338.**—ASAHEL G. BATCHELDER, Lowell, Mass.—*Key for Locks*.—September 3, 1867.—The key has an elongated notch in the rear of its shank to correspond to a key hole of an unusual shape.

*Claim.*—The key A, as made with the notch *a* arranged in its shank and with respect to its bit *c*, substantially in manner and for the purpose as specified.

**68,339.**—DE WITT C. BEAMER, Philadelphia, Pa., assignor to himself and James MARKLAND, same place.—*Business Card and Pin-cushion*.—September 3, 1867.—The folded business card contains a pin-cushion that has within it an aperture filled with perfumed material.

*Claim.*—First, a combined, hermetically sealed, scented, perfumed business card and pin-cushion, constructed substantially as above described and for the purposes set forth.

Second, the combination of the piece of lapping B, with the board A, and strips E E, the lapping having a hole *a'* for the reception of a perfume material, and arranged substantially as described and for the purposes set forth.

**68,340.**—L. H. BECKWITH, Port Jervis, N. Y., assignor to himself, M. COLGAN, same place, and M. M. LIVINGSTON, New York, N. Y.—*Bending Machine*.—September 3, 1867; antedated August 19, 1867.—The cam clamps the bar in the holding box in connection with the former and lever, to bend it to the required shape. An adjustable set screw regulates the distance in inserting the bar into the box.

*Claim.*—First, a forming lever in combination with a holding box and former, the whole constructed and arranged substantially as described, and having a mode of operation substantially as set forth.

Second, the combination of the set screws D and I and stops F *s* with the holding boxes, substantially as and for the purpose herein specified.

Third, the cam-shaped clamp C, in combination with the holding box B and an adjustable stop *s*, substantially as specified, for holding the bar or rod in the holding box while being operated upon.

**68,341.**—ALMA BEDFORD, Coldwater, Mich.—*Strap Attachment*.—September 3, 1867; antedated August 25, 1867.—The end of the strap is clamped between concave disks, which are drawn together by a set screw.

*Claim.*—An improved fastening device consisting of a clamping plate made concave or with an upturned edge, combined by means of a central independent screw with an opposite plate of smaller diameter or dimension, the whole arranged and operating substantially in the manner and for the purpose herein set forth.

**68,342.**—JACOB BENTZ, Brooklyn, N. Y.—*Machine for Framing Match Splints*.—September 2, 1867; improvement on his patent, June 26, 1866.—The cam-bar, plunger frame has cams on each side, and double acting levers are connected with the feeding device, whereby an automatic feed of the splint-clamps into the machine is obtained. Broken splints and splints lying across the grooves of the bed are discharged through an opening under the hopper.

*Claim.*—First, the employment of a splint clamp feeding device arranged to work in connection with the machine for framing and filling the splint clamp with splints, substantially as and for the purpose herein shown.

Second, the employment of the cams S S, the levers R R, and connecting rods T T, for the purpose of automatically operating the said feeding device with the operation of framing and filling of the splint frames, substantially as herein shown.

Third, the employment of the slot U in connection with the grooved bed C, and hopper B, and plungers or comb E, substantially as and for the purpose herein described.

**68,343.**—MONTGOMERY BLAIR, Barry, Ill.—*Straw Scatterer*.—September 3, 1867.—The straw carrier with spiked slats delivers the straw while the wagon is moving.

*Claim.*—The foregoing described machine with its combination of pulleys, rollers, and revolving rakes,



and stop rakes, all moved by means of bands and pulley attached to common wagons.

**68,344.**—GLAUCUS H. BONNAFFON.—Allegheny City, Pa.—*Manufacture of Hose*.—September 3, 1867.—Corresponding metallic straps inside and outside of the juncture of the hose strengthen the joint.

*Claim.*—Strengthening hose or belting by plates or straps of metal, or other suitable material, connected with the riveting in the folded edges, which plates or straps are also riveted to the hose or belting at points laterally back from the main riveting, substantially as and for the purposes above set forth.

**68,345.**—CHARLES BROWN, Buffalo, N. Y.—*Preparing Short Cut Straw for Feed*.—September 3, 1867.—The hay after being cut is crushed between rollers and winnowed to expel the dust.

*Claim.*—Preparing short cut hay and straw by crushing and winnowing to produce an improved article of food for cattle and horses, substantially as described.

**68,346.**—JAMES D. BROWN, Preble County, Ohio.—*Machine for Removing the Seed from Broom Corn*.—September 3, 1867.—The treadle actuates the spiked wheel which cleans the seed from the broom corn when it is placed in the chute.

*Claim.*—The wheel B, provided with teeth or spikes *b b*, and the chute D, arranged and in combination with the whole, substantially as herein set forth and for the purpose specified.

**68,347.**—JUSTUS A. BROWN, Bath, Me.—*Railway Car Seat*.—September 3, 1867.—The back is pivoted to and swings in grooves in the arms when the back is swung over to face the seat to the other side.

*Claim.*—First, the reciprocating arm C C pivoted to the seat A, with the bar *g* connected to their lower ends, and having the back B pivoted to their upper ends, which is provided with pin *e* playing in the slot *d* of the back, as represented and described.

Second, the pin *e*, in combination with the back B, operating with the slotted arms C, pivoted to the seat frame, substantially as described, for the purpose specified.

**68,348.**—JOHN R. BUCHANAN, Chicago, Ill.—*Hose Coupling*.—September 3, 1867.—The hose is stretched over a barrel-shaped thimble and is held in position by a nut which has a conical end corresponding to the enlargement of the thimble.

*Claim.*—The combination and arrangement of nut D, barrel thimble B, and hose C, arranged to operate substantially as and for the purpose set forth.

**68,349.**—F. C. BUISSON, Nantiat, France.—*Buoy Safe*.—September 3, 1867.—The metallic buoy is divided into compartments by which it is braced, and has water-tight doors opening to the inside. The buoy has an encircling armor of cork.

*Claim.*—A buoy safe composed of a metallic buoy made up of separate compartments provided with lids or doors and outside cork armor, substantially as specified.

**68,350.**—T. BURR, and T. WAKELEE, Battle Creek, Mich.—*Apparatus for Testing Deep Wells*.—September 3, 1867.—The tube has a fixed and a movable collar when it is desired to pack it, and between the collars is placed an annular rubber block. The moving disks are connected to a lever, by whose oscillation they are forced to the rubber, to expand it radially, and pack the well. A pipe for escape of gas passes through the collars.

*Claim.*—First, the packing boxes B B C C C<sup>2</sup> C<sup>2</sup>, constructed and operating substantially as described, and for the purpose set forth.

Second, the gas pipe D in connection with the packing band, substantially as and for the purpose set forth.

Third, the lever *i*, in combination with the connecting rods G G, brake E, extension rods F F, and packing bands B B C C C<sup>2</sup> C<sup>2</sup>, substantially as described and for the purpose set forth.

**68,351.**—H. W. BUTTERWORTH, Philadelphia, Pa.—*Apparatus for Coating Metal Plates with Tin and other Metals*.—September 3, 1867.—The sheet

iron is passed down the guide plate toward the rollers by which the plate is drawn forward and withdrawn, the rollers imparting an even coating of tin to the plate.

*Claim.*—First, rollers *a* and *a'*, combined with a pan for containing molten lead, substantially as and for the purpose herein set forth.

Second, the pan B, in combination with the rollers *a* and *a'* and *b* and *b'* geared together so as to operate simultaneously as described for the purpose specified.

Third, the arrangement of the curved apron *b<sup>2</sup>* in the bottom of the pan B in respect to the rollers *a* and *a'* and *b* and *b'*.

**68,352.**—ABRAM CLOW, Port Byron, N. Y., assignor to himself and CHARLES CLOW, same place.—*Grain Fork*.—September 3, 1867.—The tines and handle are inserted in the metallic head. The wire guard is braced by a hook secured in the handle.

*Claim.*—First, the arrangement of the sockets *a' C* placed in line so that in seating the center tooth B' it must be driven through both sockets, as herein described and for the purpose specified.

Second, the elevated rests or supports *f f* for steadying and stiffening the bow D, substantially as and for the purpose specified.

**68,353.**—SAMUEL DARLING, Bangor, Me.—*Window Ventilator*.—September 3, 1867.—The tubular ventilators that pass through the casing have adjustable perforated plates by which they can be opened or shut.

*Claim.*—First, the combining with an ordinary window sash a ventilating device inserted in the sash itself, substantially as described.

Second, in combination with a ventilating device substantially such as described, openings or perforations in the sash inclining downward and outward.

Third, in combination with double sashes, one or more ventilating tubes inserted therein and provided with a valve, substantially as described.

**68,354.**—GEORGE H. DOW, Freeport, Ill.—*Churn Dasher*.—September 3, 1867.—As the dasher is lifted the valve opens, allowing a current of air to enter, and as it is depressed the valve closes.

*Claim.*—The valve seat D and valve D', in combination with the dasher B and shaft A, when constructed as and for the purpose set forth.

**68,355.**—W. H. EARNEST, Parkersburg, West Va.—*Clothes Dryer and Stand*.—September 3, 1867.—The stand top has a series of bars so pivoted that they may depend from the periphery or be elevated into a horizontal radial position to support the clothing.

*Claim.*—The revolving head C, flat at its top and with a circumferential groove on its edge, around which is passed the wire E, having a series of arms D suspended by means of narrow slots at their inner ends, said arms being grooved at their sides and beveled on their upper edges, the whole supported by the stand A, as specified.

**68,356.**—GEORGE E. EVANS, Boston, Mass.—*Centrifugal Machine for Washing Sugar*.—September 3, 1867.—The removable cone has at the apex a swivel hook by which it may be drawn up while the machine is rotating.

*Claim.*—First, a removable cone for forming a wall of sugar in centrifugal machines, constructed and operated substantially as described.

Second, in centrifugal machine for washing sugars operating a removable cone placed within such centrifugals by lifting it while the centrifugal is being revolved for the purpose of forming a wall of sugar, in the manner and for the purpose substantially as described.

**68,357.**—HERBERT E. FOWLER, Wolcottville, Conn.—*Machine for Separating Tinned and Galvanized Articles of Metal*.—September 3, 1867.—The small articles, immediately after immersion in the bath of molten coating metal, are placed in a hopper, and descending upon an oscillating segmental plate are thrown to both sides and fall into a water bath.

*Claim.*—The vibrating separator, fitted substantially as specified, in combination with the supply hopper, as and for the purposes set forth.



**68,358.**—GEORGE H. GARDNER, Philadelphia, Pa., assignor to himself and A. B. COOLEY, same place.—*Cow Milker.*—September 3, 1867.—The teat cups are placed over the teats and the air exhausted from the cylinder to cause the milk to flow. The milk is discharged from the cylinder through a spout at bottom. All the openings into the cylinder have check valves.

*Claim.*—First, the combination with the vessel A of a piston B, its rod *d*, and the operating lever C', the whole being constructed, arranged, and operating substantially as set forth for the purpose specified.

Second, the branch pipes D, rendered adjustable on the vessel A, substantially as and for the purpose herein set forth.

Third, the adjustable teat cups G strengthened by the rings  $v$   $v^1$  and  $v^2$ , substantially in the manner described.

Fourth, the manner substantially as described of securing teat cups G to the branch pipes D.

**68,359.**—HENRY A. GASTON, Nevada City, Cal.—*Amalgamator.*—September 3, 1867.—The spirally-formed mullers have a planetary revolution around the central shaft, and are rotated on their axis by the ring gearing which engages their pinions. The annular pan has a sectional false bottom of incline-topped die plates, whose salient parts act as guides to direct the ore to the center.

*Claim.*—First, the dies E in the bottom of the pan, constructed and operating in combination with mullers A, essentially as described.

Second, the mullers A when constructed of a spiral form, whereby they are made to spread or grind the pulp when rotated one direction and to loosen it from the bottom when rotated in the opposite direction, substantially as described.

**68,360.**—JOHN GIBSON, Jr., Albany, N. Y.—*Method of Holding Whips.*—September 3, 1867.—The end of the whip handle has a socket to receive the standard pin attached to the dash board. A rubber collar on the pin prevents accidental dislodgment.

*Claim.*—First, constructing whips with a hollow butt or handle end, for the purpose substantially as set forth and described.

Second, the standard C with or without the elastic washer *e*, or its equivalent, attached to the body, dickey seat, dash, or any other part of the carriage or sleigh, for the purposes set forth and described.

Third, the hollow or bore *a* of the whip handle, in combination with the standard C for holding the whip, substantially as set forth and described.

**68,361.**—JOHN F. GOLDTHWAIT, Boston, Mass.—*Buttoner for Shoes.*—September 3, 1867.—Explained by the claim and illustration.

*Claim.*—A buttoner, substantially as described, consisting of a continuous loop, enlarged at C, for the purpose of receiving the button, and narrowed at *d* to suit the eye of the button.

**68,362.**—WILLIAM D. GRIMSHAW, Newark, N. J.—*Drilling Machine.*—September 3, 1867; antedated August 18, 1867.—A belt from the driving cone passes over the sheaves and to a cone on the stock spindle. The drill is depressed by a lever and elevated by a spring connected to the said lever.

*Claim.*—First, the slides *t* clamped to the standard *b* and receiving the bed *u*, constructed and arranged in the manner and for the purposes specified.

Second, the pulleys *d* *r* and *s*, arranged as set forth, in combination with the drill stock *k*, treadle *g*, and crank 2, as and for the purposes specified.

**68,363.**—CHARLES HEATON, New York, N. Y.—*Preparing and Treating Vegetable Fibers.*—September 3, 1867.—Crude bamboo is softened by steeping in an alkaline solution so as to enable it to be baled more solidly, and to destroy the insect life therein.

*Claim.*—First, subjecting crude vegetable fibrous material to any chemical treatment which softens and shrinks its bulk without disintegrating the same, for the purpose set forth and described.

Second, preparing bamboo or other crude vegetable fibrous matter for transportation and subsequent disintegration as a fiber-producing material, by means of an alkaline or a caustic alkaline solution.

Third, softening and preparing bamboo, or other

crude vegetable fibrous matter, by means of an alkaline solution, when so applied as not to disintegrate the material, but simply to prepare it for mechanical reduction, as fully set forth.

Fourth, the process of disintegrating bamboo or other like crude vegetable fibrous matter by means of the beating or rag engine, or its mechanical equivalent, when such bamboo or other fibrous matter has not been reduced to a pulpy mass by chemical action, or when the material has not been previously subjected to a treatment which destroys its woody conformation, but has been prepared for the mechanical disintegration by being softened in an alkaline solution.

**68,364.**—JOHN HUBBELL, Buffalo, N. Y.—*Boot Heel.*—September 3, 1867; antedated August 25, 1867.—The metallic casing plate encloses the top of the heel, and its shape in front corresponds to the rounded form of the shank.

*Claim.*—Extending the metallic heel plate upwardly sufficient to meet the upper leather, as represented at  $a^3$ , and making the front part concave, as shown at  $a^4$ , for the purpose and as described.

**68,365.**—DAVID C. HULL, Chelsea, Mass.—*Rolling Rubber into Sheets and Applying same to Fabrics.*—September 3, 1867.—Explained by the claims and illustration.

*Claim.*—The improvement in the manufacture of sheets of rubber by means of rollers, the same consisting in the formation of two separate sheets, by two pairs of reducing rollers, and subsequently bringing together and uniting the two sheets so made by means of two rollers and by the pressure of such sheets between such rollers, as specified.

Also, the new manufacture or compound rubber sheet as made by such process or means.

Also, the duplex or compound rubber sheet making machine, as composed of the two pairs of reducing rollers B C and D E and one or more compressing rollers F, the whole being to operate substantially as and for the purpose described.

Also, the above described improvement in the application of rubber to cloth by means of rollers, the same consisting in the formation of two separate sheets of rubber by two separate sets of reducing rollers and applying and pressing by means of two rollers such two sheets together and upon a single piece of cloth or upon two pieces of cloth, so as to unite the sheets and cloth in manner as specified.

Also, the new manufacture, or compound rubber-coated cloth, or its equivalent, made by means and in the manner specified.

**68,366.**—M. C. HULL, New York, N. Y.—*Cooking Range.*—September 3, 1867.—The fire is in the lower part; the caloric current passes through descending flues and heats the lower portion, and, thence ascending, heats the elevated oven and passes to the chimney. A current of air traverses passages in the lower part and, proceeding upward, is conducted to a room above.

*Claim.*—First, in a range or stove provided with an elevated oven, a descending flue in the lower portion of the range, for the purpose and substantially as set forth.

Second, the arrangement of the air pipe *k*, smoke flue *n*, and elevated ovens *o* *o'*, in combination with a range or stove having a descending flue, substantially as and for the purpose set forth.

Third, a conical register introduced in the hot-air flue around the smoke flue, in the manner and for the purposes specified.

Fourth, forming a chamber for non-conducting material above the top oven flue, for the purposes and as set forth.

Fifth, inclining the upper plate of the top oven flue so as to deflect the products of combustion down upon the top of the oven, as set forth.

Sixth, the air flue *k* within the smoke flue *n*, in combination with an air-heating range or stove, substantially as set forth.

**68,367.**—FLEURY HUOT, New York, N. Y.—*Manufacture of Drying Oil for Paint.*—September 3, 1867; antedated August 18, 1867.—Nitric or arsenious acid, 1 pound, and water, 2 pounds, is mixed with 6 pounds of resin oil and heated until the reaction



between the oil and acid ceases; after subsidence the oil is decanted.

*Claim.*—The manufacture of drying oils having a body adapted to paint, &c., by the acid reaction, in the manner specified.

**68,368.**—ISAAC W. LAMB, Salem, Mich.—*Car Seat and Couch.*—September 3, 1867.—The facing seats have hinged backs that combine with the seats to form the couch. The pivoted supporting bars attached to the backs allow the simultaneous depression of the upper berth in conjunction with the backs of the seats.

*Claim.*—The backs B, hinged to the seats and connected by rods to upper movable berths, constructed and arranged as described.

Second, the arms *b b'*, in combination with the movable backs, as and for the purpose set forth.

Third, in combination with the arms *b b'* and backs, the arrangement of cords, rollers, and pulleys, for the purpose set forth.

Fourth, the stops *o o'*, in combination with the seat frame and arms *b b'*.

Fifth, the upper couches D D', attached to the seat backs by long and short rods, all constructed and arranged as described and for the purpose set forth.

Sixth, in combination with the upper couches, supported and operated as described, curtains *e e*, as and for the purpose set forth.

**68,369.**—WILLIAM LEONARD, Boston, Mass.—*Horse Collar.*—September 3, 1867.—The bearing surface is covered with rubber cloth, and at the point where it is sewn to the other portions of the collar cover it is reinforced with leather. It is lined with cloth against the filling.

*Claim.*—A horse collar the bearing surface of which is made of rubber or rubber compound, when the edges of such rubber are reinforced to enable the rubber to be secured in position, substantially as set forth.

Also, in combination with the above, interposing between the rubber and the stuffing *c* the cloth *h*, substantially as and for the purpose described.

**68,370.**—HERMAN S. LUCAS, Chester, Mass.—*Paper Stock.*—September 3, 1867.—The fiber is treated with alkali to remove the silex; is bleached with chlorine, and broken up by the ordinary means of reducing fiber to stock.

*Claim.*—The application of the fibers of the stalks and leaves of the plant *Spartina Juncea* (or low rush salt grass) to the manufacture of paper stock.

**68,371.**—C. C. LYMAN, Edinboro', Pa.—*Platform Scale.*—September 3, 1867.—The platform is elevated by the cams on the parallel shafts, to allow freighted cars to pass over it without touching the scale bearing, unless required.

*Claim.*—The cams G, shaft D, and pulleys H, as arranged in combination with the platform B, for the purpose and in the manner set forth.

**68,372.**—CHARLES H. MANN, Fairlee, Vt.—*Cattle Stanchion.*—September 3, 1867.—The stationary and hinged bars are attached to upper and lower pieces, which are pivoted into the frame to form a rotary stanchion. The movable bar has a drop latch.

*Claim.*—The rotary stanchion, as well as its arrangement and combination with a holding frame or its equivalent, the whole being substantially as described.

**68,373.**—CHARLES F. MARTINE, Boston, Mass.—*Sofa Bedstead.*—September 3, 1867.—The arms divide, and the outer portions swing round on their hinges to form ends for that portion of the bed which is afforded by the back, when that is laid prostrate.

*Claim.*—First, the spring catch *a* and pin *e* in the stationary section D, and the notched opening in the hinged section C of the arm for securing said sections together, as and for the purpose specified.

Second, the latches G G pivoted to the back L, and used in combination with the staples or loops I I, and cord J for disengaging both ends of the back simultaneously, substantially as specified.

**68,374.**—PURDY MASON and JAMES W. BRANT, Oswego, N. Y.—*Machine for Stirring Starch.*—Sep-

tember 3, 1867.—A glass stave permits the condition of the contents of the vat to be observed. The gates are raised or lowered by cords and rollers, and when in working position the weights cause the gates to press upon the surface of the starch.

*Claim.*—First, the tank A with its glass stave or window, as and for the purpose set forth.

Second, the use of the adjustable gates G G with their weights and cords for regulating them, substantially as herein set forth.

Third, the combination and arrangement of the tank A and shaft D, with its arms with the sleeves H H, cords J J and gates G G, as and for the purpose specified.

**68,375.**—JOHN MATTHEWS, Jr., New York, N. Y.—*Apparatus for the Manufacture of Soda Water, and for Aerating Liquids.*—September 3, 1867.—The pump feed and agitator to the condenser are connected without joints to the latter above the average level of water therein by operating the feed and agitator through the lower portion of the condenser. The charging pump has a lower stationary hollow plunger and reciprocating cylinder with valves and pipes.

*Claim.*—First, a soda water or other aerating apparatus, having its pump feed and agitator or mixer, so arranged in relation to its condenser or reservoir as that all joints in the latter above its average water level may be dispensed with as herein specified.

Second, in soda water or other aerating apparatus the combination with the reservoir or condenser C, a reciprocating discharge pipe or tube J to the pump, substantially as and for the purposes herein set forth.

Third, the combination of the stationary hollow plunger D, reciprocating pump cylinder F, reciprocating discharge pipe J connected therewith, receiving and delivery valves and reservoir or condenser C, essentially as specified.

Fourth, the volutes L M, or their equivalents, acting as agitators or mixers, arranged on the reciprocating pump discharge pipe, where it projects into the reservoir C, or otherwise similarly driven for action therein as set forth.

Fifth, the combination with the pump for direct action thereby of an agitator or agitators within the condenser.

**68,376.**—ISAAC H. MCOMBER, El Paso, Ill.—*Gate.*—September 3, 1867.—As the gate is opened the roller below the heel stile rises on the incline and the gravity of the gate, aided by the spring on the hinge rod, causes the gate to close when it is free to move.

*Claim.*—The block G, roller H, staple C and bolt D, shaft E and spring F, constructed and arranged to operate as and for the purpose set forth.

**68,377.**—CYRUS H. MERRICK, Pittsburg, Pa.—*Steam Engine.*—September 3, 1867.—Explained by the claims and illustration.

*Claim.*—First, so constructing the steam valves and ports of the cylinder of a reciprocating engine as to open a communication for exhaust steam between the two ends of the cylinder at or about the time when the live steam is cut off and before the completion of either stroke, substantially as and for the purposes above set forth.

Second, balancing the piston of a reciprocating engine by the use of exhaust steam or other fluid motor employed while the crank is approaching to, passing and receding from, the dead points or centers, during any desirable portion of the stroke, substantially as and for the purpose above described.

Third, so constructing and arranging the steam valve and ports of a steam engine as to admit steam to the cylinder during the middle of each stroke, and for a greater or less proportion of such stroke, in combination with one or more openings or communicating passages from end to end of the cylinder, fitted with a valve or valves or other suitable device for permitting or preventing the flow of steam, in order to balance the piston, substantially in the manner and for the purposes hereinbefore set forth.

**68,378.**—LEWIS MERRIFIELD, Lagrange Center, Ind.—*Washing Machine.*—September 3, 1867.—The inclined roller frame is adjusted in the tub, and the washboard is reciprocated beneath it.

*Claim.*—The combination and arrangement of the



frame D, grooved rollers B B, rubber K, tub H, with the springs and catches E, all as and for the purposes specified.

**68,379.**—JEREMIAH MILLER, Pittsburg, Pa.—*Curbing*.—September 3, 1867.—The cast iron curbing has a cap piece connected by a web to a base flange, and when made without the gutter will answer as a base piece for metallic railings.

*Claim.*—A metallte curbing or metallic base for railings, fences, and similar purposes, consisting of a cap or crown piece, web, flange, and gutter, constructed substantially as and for the purposes described.

**68,380.**—PETER H. NILES, Boston, Mass., assignor to himself and AUGUSTUS RUSS, Cambridge, Mass.—*Hose Coupling*.—September 3, 1867.—A rubber ring on one section is expanded between a nut and flange into the recessed socket of the other section.

*Claim.*—First, the construction of a self-packing coupling composed of an elastic ring expanded into a recess in the opposite section of the coupling by means substantially as described.

Second, the expanding ring D, in conformation with the recess G, forming a self-packing coupling, substantially as above described.

Third, the ring D, nut B, washer C, and flange E, acting in combination, substantially as above described.

**68,381.**—RICHARD J. NUNN, Savannah, Ga.—*Wood Screw*.—September 3, 1867.—The sides of the head are notched for the engagement of a suitable driver, and brads are driven through these notches. The brads may be connected by an ornamental cap covering the head of the screw.

First, the nails or locking brads *b*, in combination with the screw having its head constructed with nicks or notches *a'*, substantially as and for the purpose herein set forth.

Second, the supplemental head *c*, in combination with the locking brads *b*, and the notched head of the screw, substantially as and for the purpose herein set forth.

**68,382.**—FREDERICK ORTLIEB, Williamsburg, N. Y.—*Condenser*.—September 3, 1867.—The water from the condenser passes through a vertical pipe, which encloses another pipe communicating with the top of the condenser. This pipe is vertically adjustable to regulate its discharge end in relation to the contracted nozzle of the water pipe. The air is drawn through the pipe by the partial vacuum formed at the mouth.

*Claim.*—First, the outer siphonic pipe through which the water from the condenser flows for extracting the air and gases from the steam-condensing spaces through a pipe or pipes communicating therewith, essentially as set forth.

Second, the combination of the water-circulating or siphonic pipe C with the pipe D, or its extension D', made adjustable so as to regulate the outflow through the pipe C, for operation in connection with the condenser, substantially as specified.

**68,383.**—AUSTIN PACKARD, Brooklyn, N. Y.—*Securing Linings in Stoves*.—September 3, 1867.—The fire bricks are connected together and to their supporting flange by tongues and grooves.

*Claim.*—Fastening or securing fire brick or soap stone lining in the fire boxes or fire pots of stoves, ranges, cabooses, or in other places where such linings are or may be used, substantially as hereinbefore set forth.

**68,384.**—CLINTON J. PAINE, Young America, Ill.—*Canning Fruit*.—September 3, 1867.—Steam is conveyed by a pipe to near the bottom of the can and expels the air.

*Claim.*—First, the improved mode herein described for canning fruit, &c., by means of steam introduced into the body of the fruit, &c., while the same is in a cold state, substantially as set forth.

Second, the special use of the pipe C, provided with the perforations E, and operating in the manner and for the purpose substantially as specified.

Third, the filler or funnel D, provided with the collar D', in combination with the pipe C, and operating

so as to be adjusted to any height can or jar, in the manner substantially as herein set forth.

Fourth, the combination of the pipe C, filler D, provided with the collar D', and boiler A, arranged and operating as and for the purpose specified.

**68,385.**—HARVEY and ALVAH PHELPS, Albany, N. Y.—*Apparatus for Slabbing Soap*.—September 3, 1867.—The transverse wires of the frame are drawn through the soap block horizontally by a windlass attached to the frame.

*Claim.*—First, the employment or use of the attachable and detachable frames F, constructed as described, and the same secured to the movable frame E by means of the clamps H H, or their equivalents, for the purpose specified.

Second, in combination with the frames E F and clamps H the windlass A, frame B, guide bars *d d*, and sliding bars *c c*, the whole being arranged to operate in the manner and for the purpose shown and described.

**68,386.**—WM. POTTER and EBENEZER CRANE, Lowell, Mass.—*Cotton Elevator*.—September 3, 1867.—The cotton is received between endless aprons armed with points and supported at the backs by rollers. It is conveyed between them in vertical or inclined directions.

*Claim.*—First, the employment of the endless aprons, in the manner and for the purpose substantially as set forth.

Second, the employment of points *o* projecting from the apron slats, as and for the purpose set forth.

Third, the binder rolls *c*, combined with the apron B or C, as and for the purpose specified.

**68,387.**—RALPH REED, Pittsburg, Pa.—*Window Shutter Fastening*.—September 3, 1867.—The catch is pivoted to the front face of the sill and is turned up to engage the inner edge of the shutter.

*Claim.*—The bar C, constructed and used with the window shutter and sill, substantially as and for the purpose set forth.

**68,388.**—JOHN H. RHODES, Brooklyn, N. Y.—*Pipe Joint*.—September 3, 1867.—A sleeve of soft metal or rubber is slipped over the joint and clamped by two inclined collars drawn together by bolts.

*Claim.*—The combination of the slip sleeve B, made by an arched or bulging form between its ends of soft metal, or other suitable compressible material, with a compressing jacket or clamping rings C C', of a harder or less pliable character, for operation in connection with the ends of separate lengths or sections of pipe A A', substantially as specified.

**68,389.**—L. SCHAEFFER, Cleveland, Ohio.—*Sofa Bedstead*.—September 3, 1867.—The seat is in two sections, which are unfolded to form a bedstead. The dowel pins by which the arms are attached form the legs. The arms are attached when in the bed form by tenons which enter mortises in the bedstead.

*Claim.*—The adjustable arms F, dowel pins G, and movable back H, when constructed and arranged in combination with the sections A B in the manner substantially as described.

**68,390.**—WILLIAM J. SLOAN, Bloom, Ill.—*Threshing Machine*.—September 3, 1867.—Explained by the claim and illustration.

*Claim.*—A feeder, having frame A, guards E, and endless apron B, in combination with cylinder H, having curved arms I, when constructed substantially as and for the purpose set forth.

**68,391.**—LEABURY SOWLE, New Albany, Ind.—*Staging*.—September 3, 1867.—The landing stage has longitudinal sides and top pieces and transverse ties. The ends are protected by metallic plates.

*Claim.*—The within-described skid, constructed and used substantially in the manner and for the purpose set forth.

**68,392.**—JAMES P. STANTON, Pedricktown, N. J.—*Potato Plow*.—September 3, 1867.—Side plows turn the earth and the double mold-board plow turns the potatoes out. The side-plow beams are connected by bars to the central beam, and the bars are inclined, more or less, for lateral adjustment.



*Claim.*—First, the employment of a band lever for shifting laterally the side plows, substantially as described.

Second, such lever combined with devices for locking the same in different positions.

Third, such lever combined with a slide connected with the side-plow beams.

Fourth, such lever combined with a side spring, operating as a self-acting locking device.

**68,393.**—WM. H. STARTZMAN, Big Lick, Va.—*Cultivator Plow*.—September 3, 1867.—The reversible shares are adjusted by their clamping bolts and a set screw passing through the standard and impinging against the upper end.

*Claim.*—The arrangement with the beam A, and shank B, of the stirrup C, set screw E, brace F, bolt H', and the teeth G, made reversible with the same or different-shaped ends, as and for the purpose set forth.

**68,394.**—WILLIAM B. STEPHENS, Stephens' Mills, N. Y.—*Mill Pick*.—September 3, 1867.—The pick bar is flanked by metallic side bars, which are held together by a set screw at midlength, which passes through a slot in the pick bar. The plates are also clamped by a handle, into which the pick is inserted for use.

*Claim.*—The combination and arrangement of the bars A A', steel plate B, and set screw C, when constructed and used for the purposes specified.

**68,395.**—OSCAR B. SUTTON, Kensico, N. Y.—*Carriage Jack*.—September 3, 1867; antedated August, 30, 1867.—Explained by the claim and illustration.

*Claim.*—The notched locking bar D, pivoted to the leg B, its upper surface bearing against the staple E, secured to leg A, and retaining on its lower face the link F, attached to the lifting bar C, which is pivoted to the two legs A and B, operating substantially as described for the purpose specified.

**68,396.**—LEWIS SYLVESTER, Philadelphia, Pa.—*Brick Machine*.—September 3, 1867.—From the pug mill the clay enters a box into which a jet of steam has been admitted, and from this it is forced by a plunger into the mold, the bottom plunger giving way before it. The molds are then raised, and the brick ejected upon the off-bearing belt. Several molds and their concomitants are combined in one machine.

*Claim.*—First, the combination of the reciprocating mold box, its compartments and followers, the box G, and its partitions h, and the reciprocating ram with its recesses for the reception of the said partition, the whole being constructed and arranged substantially as and for the purpose herein set forth.

Second, the combination of the above with the hopper G.

Third, the pin or key d, for connecting the ram F to the rod E, in combination with the devices herein described, or their equivalents to the same, whereby the ram and rod may be made a fixed part of each other, or may be made to move to a limited extent independently of each other, for the purpose specified.

Fourth, the mold box, follower r, their rods r', and plate L, in combination with the arms P and the appliances herein described, or their equivalents, whereby the said arms are caused to yield on forcing the clay into the compartments of the said box, are carried upwards with the box, and are made the medium of forcing the bricks from the box, all substantially as set forth.

Fifth, the bearing-off boards v, constructed and applied to a brick machine, substantially as described, so as to serve as a medium for stripping the bricks from the followers, as set forth.

Sixth, a steam pipe I, communicating with the compartments x of the box G, substantially as and for the purpose herein set forth.

**68,397.**—BENJAMIN F. TAFT, Groton Junction, Mass., assignor to AMES PLOW COMPANY, Boston, Mass.—*Wheel Hub*.—September 3, 1867.—The hub consists of two annular parts, one of which has recesses to receive the spokes, which are held therein by the other part. This latter part has lips taking over the former. The plates are bolted together.

*Claim.*—The combination as well as the arrange-

ment of the series of lips or bridges c c, the cap plate C, and the hub part A, provided with the sleeve B and the spoke receiving cavities or mortises arranged within it and with respect to the said lips substantially in manner as heretofore specified, and as represented in the accompanying drawings.

**68,398.**—HENRY G. TYLER, Andover, Mass.—*Overshoe*.—September 3, 1867.—Explained by the claim.

*Claim.*—The new process described of making a vulcanized shoe with an elastic gore, the same consisting in the insertion within the shoe during the construction of it and prior to vulcanization of it, of muslin, stocking net, or other equivalent fabric, (however such fabric may have been prepared,) in connection with vulcanizable india-rubber or india-rubber compounds, placed on or between layers of the said fabric, and to a removal of part of the shoe lining, the whole being substantially as hereinbefore set forth.

**68,399.**—CALVIN WADSWORTH, Madison, Ohio.—*Self-relieving Grape Gatherer*.—September 3, 1867.—The two halves of the basket secured together by hooks discharge their load when the hooks are disengaged.

*Claim.*—As a new article of manufacture, the divided basket or receptacle herein described, consisting of the hinged halves A A' and hasp D, arranged so as to operate in the manner and for the purposes specified.

**68,400.**—DAVID N. WEST, Smithsburg, Md., assignor to himself and J. MORGAN HUGHES, Greencastle, Pa.—*Milk Bucket and Strainer*.—September 3, 1867.—The invertible cover has a strainer in the middle.

*Claim.*—In combination with a bucket, can, or any other vessel for holding and transporting milk, an invertible cover, which is a cover and strainer both, so that the same vessel may be used to milk into, to strain the milk, and convey it to market or elsewhere, substantially as and for the purpose described.

**68,401.**—JOHN F. and OLIVER B. WHITNEY, Milton, N. Y.—*Fruit Box*.—September 3, 1867.—The ends of the top and bottom boards are so nearly sawn through that there is only sufficient fiber left to act as hinges, the pieces thus turned over making the ends of the box and lid.

*Claim.*—The box, constructed with hinged movable upper and lower sides d f, substantially as and for the purpose specified.

**68,402.**—CHARLES BARTON WHITTEMORE, Boston, Mass.—*Recovering Lost Anchors*.—September 3, 1867.—A small supplemental line runs through the ring of the anchor and is attached to the cable in a few places and at its upper end engages round a buoy. If the cable parts in a storm the cord round the buoy enables the recovery of the cable, by which means the anchor may be raised.

*Claim.*—First, the supplemental lifting line in combination with an anchor cable, said line being passed through the anchor ring, or its equivalent, and so arranged as to be paid out with the anchor cable, substantially as described.

Second, the buoy, in combination with the supplemental lifting line applied to the anchor and its cable, substantially as and for the purposes set forth.

Third, the combination of the lifting line g, anchor cable B and loop i, or its equivalent, substantially as and for the purposes set forth.

**68,403.**—CARMAN WILSON, Stamford, Conn., assignor to WILLIAM L. SMITH, same place.—*Earth Pulverizer and Seeder Combined*.—September 3, 1867.—The clod crusher rotates in the front of the frame and connecting by an endless band with the perforated seed cylinder rotates the same. The rear of the frame is pierced with teeth.

*Claim.*—First, the combination of the toothed roller and harrow frame, when arranged that whenever the machine is in position to operate upon the ground the roller shall be in advance of the harrow, substantially as herein specified.

Second, in combination with such earth pulverizing device, the revolving seed-sowing cylinder F, constructed and operating substantially as herein specified.



**68,404.**—M. W. WOODRUFF, Belle Isle, N. Y.—*Wind Wheel*.—September 3, 1867.—The sails are adjusted by the governor at such inclinations as to suit the force of the wind and in accordance to the distances from their center of motion. The hollow main shaft by its connected gearing actuates a pitman that is attachable to work a churn, washing machine, &c.

*Claim.*—First, the sails J, constructed with several flat surfaces arranged at different angles, for equalizing their pitch in proportion to their velocity and distance from the center of motion substantially as herein shown and described and for the purpose specified.

Second, the hollow main shaft C, sliding shaft k, carrying toothed racks i and pinions g, in connection with the pivoted sails J and governor K, all constructed and operating substantially as and for the purpose set forth.

Third, the anti-friction carriage R S with horizontal steadying rollers t t, supporting the bed plate B, substantially in the manner and for the purpose set forth.

Fourth, the collar Q, having an arm or steadying projection q, working in the bifurcated lower arm of governor lever r in connection with the sliding shaft k and pivoted sails J, as herein set forth and for the purpose described.

Fifth, the gimbal connection T u and ring W, in combination with the lever P, pitman D, and revolving bed plate B, as herein shown and for the purpose set forth.

**68,405.**—EDWIN YANCY, Utica, N. Y.—*Horse Hay Fork*.—September 3, 1867.—The point is brought in line with the shaft for insertion into hay, the hook of the curved lever being depressed; after insertion it is projected forward by the reverse motion of the said lever.

*Claim.*—The curved lever E, provided with the rest L, and pivoted to the arm D, in combination with the hook H, link F, point B, and shank A, arranged as and for the purpose substantially as set forth.

**68,406.**—JOHN AGRELL and JOHN KLEPZIG, San Francisco, Cal.—*Furnace for Roasting Ores*.—September 3, 1867.—The hearth rotates horizontally while a series of stationary stirrers expose the ore to the action of the heat.

*Claim.*—First, a furnace for roasting ores, &c., provided with a rotating hearth with the fire acting on its upper surface as described; also, providing a rotary hearth with a door to discharge the ores or contents acted on by the fire.

Second, mounting the rotating hearth of a reverberatory furnace on rollers, substantially as described.

Third, providing the revolving hearth with partitions to hold the brick lining in place.

Fourth, in combination with the rotating hearth the stationary stirrers.

Fifth, making the shaft which holds the stirrers hollow, for the purpose of supplying steam to the ores roasted on the hearth.

**68,407.**—ARTHUR BARBARIN, New Orleans, La.—*Lightning Arrester*.—September 3, 1867.—The electric current from the main circuit is conducted by a fine wire through an axial perforation of a magnetic bar, but not in contact therewith. The magnet is supported on metallic pillars connected by wires to the ground. The wires are connected to disks having points presented to the ends of the magnet bar. The object is to convey to the ground any atmospheric electricity that may be attracted by either pole of the magnet from the points before reaching the office, magnet or cable.

*Claim.*—First, the application and use in connection with a paratonnerre, or lightning arrester for telegraph wires, cables, &c., of one or more permanent magnets or electro-magnets, as and for the purposes herein described.

Second, a lightning arrester in which one or more permanent or electro-magnets are combined with the telegraph wire or cable, and other parts of said arrester in the manner shown and described, or in any other form of mechanical arrangement substantially equivalent to the same, as set forth.

**68,408.**—LOUIS BAUHOEFER, (Henry Haner, executor,) Philadelphia, Pa.—*Compound of Cork, Rubber,*

*&c.*—September 3, 1867.—Improvement on his patent November 6, 1866. The cork, after preparation by charring, is ground and sifted and mixed with india-rubber, subjected to heated rolls until the rubber is reduced to a pasty condition. Gutta-percha may be used in place of rubber. The composition is used as a substitute for pure rubber.

*Claim.*—A composition consisting of a combination of india-rubber or gutta-percha with particles of baked or charred cork, as set forth.

**68,409.**—GUSTAVE BEQUET, SON, New York, N. Y., assignor to himself and MORITZ PINNER, same place.—*Apparatus for Rectifying and Distilling*.—September 3, 1867.—The interior of the column is divided into sections by perforated plates and is isolated at certain points, making distinct series of chambers unconnected with each other, having separate pipes for communication.

*Claim.*—First, an apparatus adapted to make rum, whiskey, alcohol, French spirits and kindred articles, when constructed substantially as described.

Second, constructing a rectifying or distilling column in such a way as to enable the passing through different channels or chambers within the same column of articles or vapors of different quality or degree, all substantially as described and for the purposes set forth.

Third, dividing the interior of a rectifying or distilling column into parts in such a manner that either part could be used for a specific purpose without interfering with the functions or operations of the other part or parts, all substantially as herein described.

Fourth, using within the interior of one and the same rectifying or distilling column sections, divisions, or passages of a variety of constructions, substantially as herein set forth.

Fifth, using the cap c, the stop cocks D<sup>1</sup> and D<sup>2</sup>, the passages E<sup>1</sup> and E<sup>2</sup>, the pipes F<sup>1</sup> F<sup>2</sup> G H I, the passages i and k, or either of these parts, in combination with a rectifying or distilling column, where the latter is divided into compartments, substantially as herein described.

**68,410.**—E. T. BUSSELL, Indianapolis, Ind., assignor to himself, W. H. CANDLER and JACOB ELDRIDGE.—*Rotary Plow*.—September 3, 1867.—The segmental driving cog wheels connect with supplementary yielding cogs attached with springs. The segmental wheels rotate the earth augers only when in contact with the earth. The yielding cogs insure the meshing of the auger pinions with the rigid cogs of the segmental gears.

*Claim.*—First, segment driving wheels S, compassing less than half a circle, when used in combination with pinions p, for the purpose of rotating each auger upon its own axis at the proper point for most effectually breaking and pulverizing the earth, substantially as shown.

Second, supplementary yielding cogs b b, when the same are attached to flat springs, as shown, and these, in connection with the segments S, as and for the purpose stated.

Third, dirt shield f, and its adjunct e, when these are made and used substantially as shown and for the purpose specified.

Fourth, castor wheel p<sup>2</sup> and roller m, or their equivalents, when the same are used for graduating the depth of this rotary plow, and for transporting the same from place to place.

**68,411.**—W. H. BUTLER, Chicago, Ill.—*Machine for Loosening Earth to be Excavated or Removed*.—September 3, 1867.—The rotation of the drum winds the cord that elevates the chisel, which is connected by pivoted clamps. The shanks of the clamps engage at the end of the stroke between two inclines, releasing the hold on the chisel shaft, which, descending drives the chisel into the ground.

*Claim.*—First, the combination of the frame B, having the chisels T arranged therein as described, with the frame A, provided with the mechanism for moving the frame B thereon, substantially as set forth.

Second, one or more chisels T, arranged to be operated as set forth for loosening or digging up the earth preparatory to removing the same, substantially as and for the purpose set forth.



**68,412.**—A. P. CHAPIN, Chicopee Falls, Mass.—*Feed and Straw Cutter*.—September 3, 1867.—The semicircular knife is secured in the sliding gate, bites against the cutter bar, and is actuated by the hand crank.

*Claim.*—The semicircular knife K, in combination with the knife bar operating in the gate frame or standards A A, as set forth and for the purposes described.

**68,413.**—WILLIAM N. CLARK, Chester, Conn., assignor to himself, JAMES B. CLARK, and HENRY PEMBER.—*Hanging Rudders*.—September 3, 1867.—The boat stem has a dovetail grooved plate to receive a tongue to which the rudder is hinged. The tongue may have extensions for hanging a balance rudder.

*Claim.*—The plate P and tongue T, in combination with the hinged rudder R, substantially as herein described and for the purpose specified.

**68,414.**—WILLIAM T. CLEMENT and EDWARD V. FOSTER, Northampton, Mass.—*Machinery for Manufacturing Hoes*.—September 3, 1867.—The blade being extended and the eye formed by hand, the heated blank is placed on the anvil and secured with the pin; the drop being released falls thereon, shaping and finishing the face of the hoe.

*Claim.*—First, the within described bed for the drop K, composed of the anvil I and pin J, the latter being full on the side *t* forwards the throat or edge of the hoe, and contracted on the opposite side, and arranged relatively to the drop K *k k'* so as to act on the material D *d* of a hoe, substantially in the manner and for the purpose herein set forth.

Second, in connection with the above, making the inclination of the pin J adjustable by means of the screws *j<sup>1</sup> j<sup>2</sup>*, or their equivalents, so as to vary the inclination of the eye of the hoe at will within moderate limits, substantially as herein specified.

**68,415.**—CHARLES J. CLIFFORD, New Hampton, N. J.—*Apparatus for Turning Crank Pins on Locomotive Driving Wheels*.—September 3, 1867.—The pin is hung on its original center at its outer extremity, and also by the collar on the inner extremity near the wheel, which, having been clear of friction, remains as originally turned. Original unaltered points for attachment are thus taken as guides and base in restoring the pin to its original bearing.

*Claim.*—The frame A, constructed as described, in combination with the screws *i* and *k*, frame C, and the operating mechanism, all constructed and arranged as set forth.

**68,416.**—M. H. COLLINS, Chelsea, Mass.—*Glass Lamp Chimney*.—September 3, 1867.—The skeleton frame is attached to a disk, and is used as a gauge to make chimneys of a cylindrical form, with uniform diameter at the base.

*Claim.*—First, the combination and arrangement of the skeleton frame or series of wires C with the rod A, or such rod and the disk B, such being for use in manner as set forth.

Second, the combination and arrangement of piercer D' with the rod A and skeleton frame or wires C, or such and the disk B.

Third, the combination and arrangement of one or more springs D and prongs F with the rod A and the skeleton frame or series of wires C.

Fourth, the combination of the piercer D', the rod A, and one or more springs D and prongs F.

Fifth, the combination of the springs F with each of the prongs D, the whole being arranged substantially as specified.

**68,417.**—MUNSON C. CRONK, Auburn, N. Y.—*Bung for Casks and Barrels*.—September 3, 1867.—The flanged head of the bung is tightened into the groove in the stave by the screw that connects it to the cross bar below.

*Claim.*—A bung with the parts B T and *n*, made and operated substantially as and for the purposes described.

**68,418.**—JOHN DARLING, Stane, Scotland.—*Reservoir Pen Holder*.—September 3, 1867.—The ink is retained in the flexible diaphragm, which is protected by the shield. The ink is discharged by pressing on the plunger.

*Claim.*—First, the tubular slide or shield F, in combination with the tubular holder and its elastic reservoir tube D, as described.

Second, the flexible diaphragm or pad *a* and sliding head or plunger E, arranged in respect to the reservoir A, substantially as and for the purpose set forth.

**68,419.**—J. W. DILLY, Roseville, Ill.—*Combined Roller, Stalk Cutter, and Marker*.—September 3, 1867.—The longitudinal cutters are secured to the rollers for cutting stalks, and a marker is attached for laying out the ground.

*Claim.*—Rollers L L, cutters P P, journal S, and frame A, combined in the manner described, and arranged substantially as described for the purposes set forth.

**68,420.**—ARNOLD DOLL, Cleveland, Ohio.—*Operating Feed Wheel in Sewing Machines*.—September 3, 1867.—The feed wheel has intermitting motion by a hanging L-formed cam which is oscillated by an arm adjustably connected to a pivoted arm, which receives motion from a rotating cam.

*Claim.*—First, the cam G and arm D, provided with a shoulder E, the whole constructed and arranged in combination with the wheel B for the purpose and in the manner substantially as set forth.

Second, cam wheel N, arm O, slotted arm I, and link L, in combination with the cam G, arm D, and spring P, arranged and operating as and for the purpose substantially as described.

**68,421.**—ZEBINA EASTMAN, Chicago, Ill.—*Railway*.—September 3, 1867.—The rails have grooves corresponding to the convexity of the wheels traversing therein and have strengthening ribs beneath which rest in the ties. The upper edges of the rails are notched to keep the horses from slipping thereon.

*Claim.*—The rail *a* having a longitudinal groove or concavity in its upper surface adapted for the reception of the convex rims of wheels of cars and other vehicles and formed with a downwardly projecting rim *b* for securing the rail in position upon the ties, when the upper edge of the rail on each side of the groove is notched in the manner and for the purpose described.

**68,422.**—AUGUST EIKERENKOTTER and FRANK SILVER, Searsville, Cal.—*Preserving Coffee*.—September 3, 1867.—The coffee is roasted, ground, and mixed with an equal quantity of sugar roasted to the same color. The two are boiled together, desiccated, and made into cakes.

*Claim.*—The process herein described for preserving coffee.

Also, the product as herein described as a new article of manufacture.

**68,423.**—JOSIAH W. ELLS, Pittsburg, Pa., assignor to himself and ISAIAH C. BREED, of same place.—*Making Axe Blanks*.—September 3, 1867.—The bar is run between rolls, and is so formed that it can be cut transversely into blanks to receive the steel.

*Claim.*—A bar of iron formed substantially in the manner and to the shape herein described, to the end that the same may be divided by cutting transversely into sections of which each shall constitute an axe blank as described as an improved article of manufacture.

**68,424.**—ELIZUR R. ENSIGN, East Hartford, Conn.—*Machine for Making Holes for Planting*.—September 3, 1867.—The weight of the rear is partially counterbalanced by the forward projection. The blade is depressed into the ground by the operator and in withdrawing scoops out the earth.

*Claim.*—The combination of the blade B with the beam A, the handles H H, and the wheel W, substantially as specified, the whole forming a machine for making holes for planting as herein described.

**68,425.**—S. V. ESSICK, Mansfield, Ohio.—*Knitting Machine*.—September 3, 1867.—The needle has an eye in the point and carries the thread over the eogs and through the stitch formed on said eogs. The point of the lever strikes the inside of the eogs and by a backward movement of the lever the stitch is drawn off and at the same time a new stitch formed



on the cog. A spring strikes between the thread and the needle and holds the former while the latter is withdrawn.

*Claim.*—The needle L constructed as described, the spring D, the main sliding piece B, the lever A, the wheel and rim J and R, the thread holder E, the ratchet F, the spring P, and the cornered wheel H, all arranged and operating substantially as described and for the purpose set forth.

**68,426.**—HIRAM B. EVEREST, Rochester, N. Y., assignor to THE VACUUM OIL COMPANY, of same place. — *Apparatus for Distilling Petroleum.* — September 3, 1867. — Two vacuum-petroleum stills are so combined, that while the lighter distillates are passing off from the crude petroleum in one still, the heavier ones are passing from the other. The oil passes from the former to the latter. The steam pipes pass first through the heavy-oil still and then through the other one, which requires less heat.

*Claim.* — First, the combination of two or more vacuum-petroleum stills, so arranged that the oil is fed from one retort into the other as it increases in specific gravity during the distillation, and economizing the use of steam used in the vaporization of the oil in the retorts, by passing it first through the heating pipes in the retort containing the heavier oils, and afterwards conducting it through the heating pipes in the retort or retorts containing the oils of lighter specific gravity, as herein set forth.

Second, the construction of a horizontal, elongated, cylindrical or elliptical vacuum retort for petroleum, arranged and operating in the manner and for the purpose herein set forth.

Third, connecting the retorts of a vacuum still with the condenser or condensers by two or more goosenecks, so as to distribute the exhaust in the retort or retorts, and thus prevent drawing the oil over, at the same time facilitating the escape of the vapor, as herein set forth.

Fourth, so combining the capacious condenser or condensers with the retort or retorts and the condensing coil or coils that said capacious condenser or condensers will serve as a check to diminish the direct action of the exhaust-pump upon the oil in the retorts, as set forth.

Fifth, placing the receiving vessels F F' in such a position as to allow the distilled oil to be discharged by its own gravity and without passing through the pump, as set forth.

Sixth, surrounding the upper portion of the retort or retorts by a jacket, or its equivalent, for the reception of steam or hot air to prevent condensation, as described.

Seventh, the use, in combination with a vacuum still or stills for petroleum and a steam generator, of an independent superheating furnace for heating the steam, as specified.

Eighth, the construction of said superheating furnace in combination with a steam boiler, substantially as and for the purposes set forth when and in connection with a vacuum petroleum still.

Ninth, the construction of a superheating furnace for distilling purposes, for numerous sections of small straight pipes, for advantage of heating surface, with facility of building and repairs, as shown.

Tenth, connecting the main induction and eduction steam pipes L D', leading from the superheating to the still, with the sections of small heating pipes within the retorts, by means of a steam chest K', bolted to the head of a still, substantially as and for the purposes set forth.

Eleventh, placing the small sections of heating pipes in the retort in upright position, substantially in the manner and for the purpose set forth.

Twelfth, the application of an oil gauge to a vacuum petroleum still, arranged and operating substantially as set forth.

Thirteenth, the combination of a steam generator, superheating furnace, and vacuum apparatus, as a whole, constructed and operating substantially in the manner set forth.

Fourteenth, the separation of petroleum into the constituent parts specified and in about the proportions named, by means of an apparatus, as herein described.

**68,427.** — GREEN FENTON, Streetsboro', Ohio. — *Sheep Table.* — September 3, 1867. — The table has removable sides and straps to secure the animal.

*Claim.* — The herein-described sheep table, provided with adjustable sides D, foot block C, and pillow B, when constructed and arranged in the manner and for the purpose substantially as set forth.

**68,428.** — THOMAS ST. CLAIR FERRIS, Nashville, Tenn. — *Truss Pad.* — September 3, 1867. — A metallic truss pad is cast over a wooden core, and is perforated with fine holes for the reception of medicinal agents.

*Claim.* — Providing a truss bottom or pad with a perforated wooden core, as and for the purpose specified.

**68,429.** — THADDEUS FOWLER, Seymour, Conn. — *Machine for Making Sewing-Machine Needles.* — September 3, 1867. — The blank is automatically fed up, turned, grooved, drilled, pointed, and polished. The devices are shown by the claims and illustration.

*Claim.* — First, in combination with an intermittently revolving feed wheel carrying a series of mandrels, a dog or pawl for moving said feed wheel when said dog or pawl rakes against the mandrels themselves as a ratchet to turn the wheel by, substantially as described.

Second, in combination with a feed wheel and a series of mandrels therein, and with the milling and drilling mechanism, a mechanism for stopping and holding the blank under the drill at a quarter revolution, or the position it occupied at the mills, substantially as and for the purpose set forth.

Third, in machine-drilled needles, the drilling of the hole through the blank, from the bottom of one groove to the bottom of the opposite groove, by a mechanism arranged and automatically operated, substantially as herein described and represented.

**68,430.** — THADDEUS FOWLER, Seymour, Conn. — *Machine for Reducing Wires for Needle Blanks.* — September 3, 1867. — In reducing, the wire has a turning motion imparted while it is being acted on by a series of blows between a stationary and movable die.

*Claim.* — First, in combination with the turning ratchets, mandrel, and blank holder, the dies F and E, for reducing and allowing the blanks to elongate under the reduction, substantially as described.

Second, in combination with the turning ratchets, mandrel, blank holder, and dies, tappet wheel C, with its tappets so arranged as to strike the die while the feed is at rest, substantially as described.

**68,431.** — JAMES N. FREESTONE, Williamsburg, N. Y. — *Wrench.* — September 3, 1867. — The pivoted jaw is connected to a sleeve, which is adjustable on the bar, whose end is beveled and serrated.

*Claim.* — The sliding piece S, with its tooth O, handle H, jaw C, and spring X, all constructed and arranged to operate substantially as described.

**68,432.** — EDWIN W. FRENCH, South Scituate, Mass. — *Engine Hose.* — September 3, 1867. — Explained by the claims and illustration.

*Claim.* — First, a hose sewed through the lapped edges, from inside to outside, when the ends of the pieces of which the hose is formed are joined together by a diagonal row or rows of stitches at one continuous operation, as described.

Second, in combination with the rows of stitches, formed as above described, a welt or covering, as and for the purpose specified.

**68,433.** — J. G. GOESEL, St. Louis, Mo. — *Feed Water Heater.* — September 3, 1867. — Explained by the claims and illustration.

*Claim.* — First, the combination of a vertical steam drum, receiving steam either from the exhaust of a steam engine or directly from a steam generator, and an inside hot-water tank, substantially as described.

Second, the combination of said steam drum with a series of vertical pipes, being connected at both ends, substantially as described.

Third, the combination of the inside water tank D, and pipe C, connected at its upper end with a series of pipes B, and discharging the already hot water near funnel f, substantially as described and for the purpose specified.

Fourth, the combination of inside water tank D, with pipe E, connected to the upper part of water tank D, and conducting the water through steam



space of steam drum, either directly or by means of fore pumps, to boilers.

**68,434.**—D. H. GOULD, Troy, N. Y.—*Gate Hinge*.—September 3, 1867.—The moving leaf has a bar, lying between two plates between the jaws, the under plate being pivoted to the lower lug of one jaw at one end, and to the bar at the other; and the upper plate being pivoted to the upper lug of the other jaw, and to the other end of the bar. The hinge may be opened in either direction.

*Claim.*—The employment of the bar *p*, in combination with the jaws *d d'*, serving as a guide and support to the parts folding within the jaws, substantially as set forth.

**68,435.**—D. M. GRAHAM, Evansville, Ind.—*Gas Apparatus*.—September 3, 1867.—This is a portable gas machine for domestic use. The gas is deodorized and refined in three cylinders having chambers containing water and water impregnated with lime.

*Claim.*—First, the construction of a portable gas apparatus with refining and deodorizing chambers, substantially in the manner and for the purpose herein set forth.

Second, the introduction of air into the deodorizing chamber *E*, by means of the stop cock *G*<sup>1</sup>, substantially in the manner and for the purpose as herein set forth.

Third, the combination of the tank *A*, generator *B*, and burner *M*, with the refining and deodorizing chamber, substantially in the manner and for the purpose as herein set forth.

Fourth, the arrangement of the tank *A*, generator *B*, chambers *E* and *F*, stop cocks *G*<sup>1</sup> and *G*, pipe *b*, pipe *d*, inner cylinder *c*, chamber *H*, pipe *e*, gasometer *I*, main pipe *L*, and burner *M*, substantially in the manner and for the purpose as herein described.

**68,436.**—E. HAMBUGJER, Detroit, Mich.—*Lock for Car Seats*.—September 3, 1867.—As the arm falls into place the spring bolt engages a notch therein and may be withdrawn by a socket screw which engages the screw shank of the bolt.

*Claim.*—The lock for car seats, consisting of the spring bolt *a b c*, catching in the recess of the arm *H*, and operated by the screw key, as herein represented and described.

**68,437.**—E. HAMBUGJER, Detroit, Mich.—*Stove Pipe*.—September 3, 1867.—The flue is divided at its lower end by an oblique diaphragm so as to form a chamber, open at the lower end into the fire space. The external air is admitted into the chamber, by which the direct escape of the caloric current is retarded.

*Claim.*—The construction of the flue or pipe of fuel-burning apparatus by dividing the same by an oblique diaphragm *A*, forming a cold air chamber, open at the bottom, into the throat of the stove or furnace, into which chamber the external air is admitted by one or more pipes or openings, retarding the escape of smoke and partially consumed gases from the fire, and securing a more perfect combustion and economy of fuel, substantially as and for the purpose shown.

**68,438.**—ALMORE HASKELL, Harrison, Maine.—*Swift*.—September 3, 1867.—The swifts are supported on sliding extension bars that are secured by bands and a set screw. A clamp and thumb screw secures the attachment to the back of a chair.

*Claim.*—The swifts, as herein described, combining the various devices set forth, in the manner and for the purpose specified.

**68,439.**—GEORGE HARDY HENFIELD, San Francisco, Cal.—*Car Coupling*.—September 3, 1867.—The hook-headed link bar is grasped by two pivoted hook bars which are locked shut upon the link by a spreader cam, or opened by a rod and coincidently acting links.

*Claim.*—First, the cam *F*, operated by the bar *m*, in combination with the jaws *D*, closed as herein described.

Second, the sides *A*, jaws *D*, spring *E*, cams *D* and *F*, and levers *M* and *N*, together with the bar *I*, the whole operating as a coupling, substantially as herein described.

**68,440.**—BENJAMIN F. HISERT, Norton Hill, N. Y., assignor to himself and GEORGE W. KING, Schoharie, N. Y.—*Cultivator Tooth*.—September 3, 1867.—The horizontal shank of the tooth is sleeved upon a bolt which permits horizontal play.

*Claim.*—A cultivator tooth or plow attached by a vertical joint to the beam so as to swing horizontally, as and for the purposes set forth.

**68,441.**—FREDERICK W. HOFFMAN, Morrisania, N. Y.—*Machine for Cutting off the Ends of Cigars*.—September 3, 1867.—Improvement on his patent No. 59,606, November 13, 1866. The knife which cuts off the ends of cigars has another blade attached at right angles which cuts the cut-off ends into two parts ready to be used for fillings.

*Claim.*—First, the arrangement of the knife *J*, attached to the knife *G*, in combination with the spring bearing *m*, in the manner and for the purpose substantially as described.

Second, the arrangement and use of the spring *v*, to guide the end of the knife *G*, substantially as set forth.

**68,442.**—JOSEPH HYDE, Troy, N. Y.—*Spring for Beds, &c.*—September 3, 1867.—The slats rest upon blocks which are attached to spring pieces beneath. The outer ends of the said pieces rest in the rabbets on the bedstead rail, and the inner end of each is connected to the block of the adjacent spring.

*Claim.*—A spring composed of the slat *A*, or its equivalent, the spring *D*, with the fulcrum *c*, constructed, arranged, and operating substantially in manner and for the purposes herein shown and described.

**68,443.**—D. W. JACOBY, Shelbyville, Ill.—*Corn Planter*.—September 3, 1867.—The rollers of the cut-off plate preserve the seed from injury. The ring governs the size of the apertures in the circular plate.

*Claim.*—First, the metallic cut-off with the rollers *R R*, to prevent the cutting of corn, substantially as described.

Second, the manner of regulating the size of the hole in the dropping plate by a semicircular ring in the circular plate, in the manner described.

Third, the combination of the cut-off *D*, with the rollers *RR*, the top plate *C*, and the semicircular ring *B*, in the circular plate *A*, substantially as described and for the purpose set forth.

**68,444.**—CHARLES KENNEDY, Philadelphia, Pa.—*Loom Heddle*.—September 3, 1867.—The strip is split and bent open to form a loop.

*Claim.*—A heddle wire, composed of flat wire or metal strip, in which an eye is formed by cutting or splitting the wire and bending the several parts away from each other, as herein set forth.

**68,445.**—M. KLEIN and H. W. WYNNE, Keokuk, Iowa.—*Fountain Pen*.—September 3, 1867.—The hollow handle forms an ink chamber. The air is admitted above by a valved opening and permits a small stream to pass to the pen; the supply is arrested as soon as the valve is replaced.

*Claim.*—First, the air opening *C*, with the spring valve *B D*, at the top of the ink chamber *A*, as and for the purpose specified.

Second, the rod *F E*, to raise the air valve *B*, with its enclosed passage way *G*, substantially as specified.

**68,446.**—CHRISTIAN KONOLD, Snowden, Pa.—*Die for Swaging Mattocks, Hoes, &c.*—September 3, 1867.—Explained by the claim.

*Claim.*—A die for forging mattocks, grub hoes, and similar implements having two faces, one of which extends across the die at one end, and is shaped so as to form the blade with thin sides, leaving a longitudinal-curved ridge down to its centre, and making the other part of the die with a concave face terminating at one end in an incline for giving the cutting edge its proper bevel and rounding the face of the blade some distance therefrom towards the eye, as hereinbefore shown and set forth.

**68,447.**—ELI H. LORD, Homer, N. Y., and EGBERT HINMAN, Syracuse, N. Y.—*Mop Pail and Wringer*.—September 3, 1867.—The rollers are in bearings on the summits of springs whose lower ends



are attached to clasps on the side of the pail. The bail, when depressed, spreads the rollers apart for the introduction of the mop cloth.

*Claim.*—First, the combination of the mop pail C C, the adjustable rollers B B, the bail *d*, the screw *h*, the whole constructed and operated in the manner described.

Second, the bail *d*, both for the purpose of a bail, and also for a lever for the purpose of separating the rollers, in the manner described.

**68,448.**—ALBON MAN, Brooklyn, N. Y.—*Bank Check.*—September 3, 1867.—As a guard against changes on the face of the draft, the end has columns of figures which are so punched as to act as a check upon the written values.

*Claim.*—First, the tabular arrangement of the several series of figures and of ciphers, substantially as and for the purpose herein specified.

Second, making each column in a different style from any of the other columns, substantially as and for the purpose herein set forth.

Third, the increasing strength or blackness from one side of the table to the other, substantially as and for the purpose herein set forth.

Fourth, varying the blackness of the background in the reverse order from that in which the blackness of the figures is varied, substantially as and for the purpose herein set forth.

Fifth, continuing the columnar arrangement beyond the series of figures so as to provide spaces for the figures to be written therein, substantially as and for the purpose herein set forth.

**68,449.**—GEORGE D. MATCHAM, Pittsfield, Ohio.—*Sheep Chair and Vat.*—September 3, 1867.—The sheep is held in the chair while the feet are pared, and is then placed standing in the trough of heated liquid until the preparation has acted upon the feet sufficiently.

*Claim.*—The adjustable chairs G, table I, and furnace K, in combination with the vat A, in the manner and for the purpose substantially as set forth.

**68,450.**—ENOS H. MCARTHUR, Hillsdale, N. Y.—*Machine for Cutting and Folding Paper.*—September 3, 1867.—The machine cuts the paper from an endless roll, either singly or by the quire, and folds the same in the middle. The paper is cut by a draw motion; a thin folding plate covers the half sheet, while the motion of the table folds over the other portion, and the motion of the table removes the sheet or the bunch, as the case may be. Devices regulate the application of the folder in relation to the length of the paper to be cut.

*Claim.*—First, the application of a folding apparatus to a paper-cutting machine, substantially as and for the purposes herein set forth.

Second, the movable part H of a folding table, in combination with the stationary part H<sup>1</sup> of the same, and folding plate L, operating substantially as and for the purposes herein set forth.

Third, in combination with a folding machine, the folding plate L, substantially as and for the purpose herein specified.

Fourth, in a folding apparatus, the folding plate L, in combination with tappet L<sup>1</sup>, cam wheel Q, spring L<sup>3</sup>, operating substantially as and for the purpose herein set forth.

Fifth, in a paper cutter, the knife G, in combination with the angle levers *f*<sup>4</sup> *f*<sup>5</sup>, slot *g*, and pin, operating substantially as and for the purpose herein set forth.

Sixth, the provisions for adjusting the folding table to the different widths of paper to be folded, substantially as and for the purpose herein specified.

**68,451.**—JASPER P. MOORE, Boston, Mass.—*Carriage Jack.*—September 3, 1867.—The slider fits loosely on the standard and is lifted by the lever whose fulcrum pin is placed in either of the holes in the standard.

*Claim.*—Improved carriage jack made as described, viz: with the slider to encompass and slide on the standard, and with a series of holes *a a a* arranged in the latter in manner and for the purpose specified.

Also, the slider as made with the three ears *b c d*, arranged so as to project from it and with respect to each other, as explained.

**68,452.**—THOMAS W. MURRAY, New York, N. Y.—*Car Brake and Starting Apparatus.*—September 3, 1867.—An eccentric on the axle works the pawl box, which is restrained from acting on the brakes by a weighted lever. When the lever is lifted the pawls are placed in operation and rotate the drum which is connected to the brake bar.

*Claim.*—First, the partial ratchet wheels 2 and 4, pawls 3 and 8, weighted lever 9, and lever 1, all constructed and combined as described and for the purpose set forth.

Second, in combination with the above, the arm 6, and cam fixed on the wheel, as and for the purpose set forth.

**68,453.**—JOHN L. NETTLETON, New Haven, Conn.—*Tool.*—September 3, 1867.—The dog has two parallel rack bars on which the adjustable slide moves.

*Claim.*—The combination of the sliding bar D and its movable ratchet teeth *a* with the parallel rack bars B and C and cross-bar A, when all the parts are constructed, connected, and fitted for use, substantially as herein described and set forth.

**68,454.**—JOSEPH PALMER, Concord, N. H.—*Dies for Making Heads for Elliptic Springs.*—September 3, 1867.—The plates are stamped out right and left, ready for welding, with a flange to lie upon the outer curve of the spring plate, and a projection to lap over the inside of the spring plate.

*Claim.*—First, the right and left dies, constructed substantially as and for the purpose herein described.

Second, the application of the ears 5 to the ends of the main leaf of an elliptic spring, substantially as and for the purpose herein described and set forth.

**68,455.**—ALBERT M. PLIMPTON, Hornellsville, N. Y.—*Detachable Buggy Top.*—September 3, 1867.—The rail to which the top is attached has depending studs, which enter holes in the strap attached to the seat. The studs have side notches to engage the side of the hole and a back key for insertion behind the stud to prevent disengagement. The key is attached to a spring.

*Claim.*—First, the keys *j j* attached to the spring holders *k k*, operating substantially in the manner herein described.

Second, the combination of the metal straps *c c* and *d d* with their openings *e e e e*, the vertical studs *h h* and *i i*, with their notches *f f*, and the keys *j j* on the spring holders *k k*, for the purposes set forth.

**68,456.**—NOAH PRESCOTT, Dorchester, Mass.—*Closing Bottles.*—September 3, 1867.—The top has two inclined projections engaging projections of the collar, and which, when the former is turned, draw it firmly to the latter. The collar is hinged and embraces the neck below the enlargement. The top has a curved slit, the convex side of which may be bent down for charging, and rises against the cap to form a valve.

*Claim.*—The bottle stopper for bottles, cans, and other similar vessels, constructed and applied substantially as described.

Also, the bottle stopper *b* with the curved slit *n*, constructed and operating substantially as described.

**68,457.**—H. C. PUTNAM and B. F. JOHNSON, Squaw Grove, Ill.—*Washing Compound.*—September 3, 1867.—Composed of soft water, 2 qts.; sal soda, 6 ozs.; lime, 4 ozs.; bar soap, 8 ozs.; and benzole, 1 oz.

*Claim.*—The washing compound, consisting of the herein stated ingredients, taken in quantities and proportions set forth, the whole prepared in the manner herein described and specified.

**68,458.**—SAMUEL A. RANKIN, Fairhaven, Ohio.—*Machine for Stripping Sorghum.*—September 3, 1867.—The rocker shaft has two arms connected to the slides by which they are drawn back to receive the stalks. The end of the operating lever of the rock shaft carries a knife. The descent of the latter severs the heads and allows the weight to draw the slides together to grasp the stalks.

*Claim.*—First, the arrangement of the slides N and O operated by weights and cords, in combination with the plate P, or an equivalent of the latter, all substantially as described and for the purpose set forth.



Second, the combination of the plate P, slides N and O, and knife B, substantially as described and for the purpose set forth.

Third, a combination of the whole, substantially as herein set forth and for the purposes specified.

**68,459.**—DENNIS RICE, Shelburne Falls, Mass.—*Machine for Drying Fruit*.—September 3, 1867.—The box has perforated shelves, and a glass door to admit rays of heat and intercept their return. The box is inclined in position and has apertures above and below to permit passage of air.

*Claim.*—The combination and arrangement of the box *a a a* with the glass door *b b b*, and the apertures *c c c*, and the cupola *d d d*, and the shelves *e e e*, substantially as and for the purposes described.

**68,460.**—HAMILTON RICHARDSON, Janesville, Wis.—*Axle-bearing for Wagons*.—September 3, 1867.—Ferrules are secured upon the inner and outer ends of the spindle; the box rests thereon. The inwardly projecting flange on the outer end of the box abuts against a shoulder of the spindle, and its inner end abuts beneath a flange on the arm.

*Claim.*—First, the axle A, having its arm or journal composed of the single solid piece, with the friction rings or ferrules *a* applied thereto at its opposite ends, as herein shown and described.

Second, the axle A, provided with the flange *n* projecting over the inner end of the box, when used in combination with the box B, having the collar *t* arranged to shut over the shoulder on the outer end of the axle, as shown and described.

**68,461.**—E. P. RUSSELL, Manlius, N. Y.—*Dumping Reel for Harvesters*.—September 3, 1867.—Improvement on his patent, No. 55,910, June 26, 1866.—The grain is received on the cradle, which is raised clear of obstacles when rotating to discharge the same.

*Claim.*—First, raising the cradle shaft at both ends at the same time that the cradles are revolved and carried backward by means of cam G, plate H, and crank L, substantially as and for the purposes set forth.

Second, cams G, plate H, lever I, arms J, and crank L, combined and operating substantially as described.

**68,462.**—J. S. SCHOFIELD, Macon, Ga.—*Hay and Cotton Press*.—September 3, 1867.—The press screw is operated by a nut turning in an arched plate attached to an iron beam, and when pressing has a bearing against the lower side of the plate by means of anti-friction balls.

*Claim.*—A hay or cotton press, constructed as above described, and having the screw G, arms I I, ring H, box D, platform K, and frames A and L, all combined and arranged in connection with each other to form a press which may rest, in working, either on the frame A, or in an inverted position on the frame L, substantially as and for the purpose described.

**68,463.**—A. S. SKILLIN and G. W. REED, Portland, Maine, assignors to themselves, HENRY L. HANSON, and J. L. BUTLER, same place.—*Nutmeg Grater*.—September 3, 1867.—The nutmeg is placed in the recess of the back and pressed by the spring against the rotating grater disk.

*Claim.*—The arrangement of the handle or stock *a*, the rotary grater *b*, spring arm *c*, thimble *d*, and head *e*, for a rotary nutmeg grater, as herein set forth and described.

**68,464.**—EDWIN STAFFORD, Philadelphia, Pa.—*Operating Condensing Rollers in Carding Machines*.—September 3, 1867.—The rubber rollers of condenser carding engines have a reciprocating longitudinal motion, presenting all parts of the rollers to the action of the sliver during the process of rubbing. This prevents formation of inequalities on the surface.

*Claim.*—Giving to the rubber or condensing rollers of a carding machine a double reciprocating motion, substantially as and for the purpose described.

**68,465.**—T. G. STANSBERRY, Medora, Ill.—*Belt Tightener*.—September 3, 1867.—The claws engage some of the lace holes, and the strap to which the claws are attached is wound around the crank shaft to draw together the ends of the belt.

*Claim.*—The slotted shaft B, provided with a

crank and ratchet wheel, in combination with the strap A, having tined hooks at its ends, arranged to operate substantially as shown and described.

**68,466.**—N. A. SWETT, Westbrook, Maine.—*Heeling Plate*.—September 3, 1867.—The plate is applied to the heel of the last as a clincher to the nails used in the construction of the heel.

*Claim.*—The heeling plate A, when it has the lip *b*, the hollow projection *a*, and when the same is secured to a last, in the manner described, and then employed as set forth for the purposes specified.

**68,467.**—WILLIAM TANNER, New York, N. Y.—*Theatrical Scenery*.—September 3, 1867.—Glittering metallic strips are stretched vertically from a roller to a slat, and arranged in a light to throw a bright reflection from their surface when they are made to quiver.

*Claim.*—The manufacture of theatrical water scenes, by arranging strips of thin polished or lustrous metal in respect to each other, substantially as described, upon the stage of a theater, and in the light thereof, as set forth.

**68,468.**—WILLIAM MCK. THORNTON, Clinton, Wis.—*Buckle*.—September 3, 1867.—Improvement on his patent, July 24, 1866.—The buckle sides are wide to give support to the trace. The stud is attached to the bow of the buckle, and passing through the trace enters the tug and engages the metallic plate therein.

*Claim.*—First, the combination of the front positions *b b* of the curved side bars A A of such width as to receive between them and afford side supports for the hame tugs, substantially as described.

Second, a trace buckle constructed and operating substantially in the manner described.

**68,469.**—HANS H. TIETJENS, Lyons, Iowa.—*Cultivator*.—September 3, 1867.—The plow is formed similarly to a horse plow, but reduced in size. It is operated by a long staff with a cross bar at its end.

*Claim.*—A hand plow, when constructed and operating substantially as described.

**68,470.**—JOHN TRAGESER and IGNATZ ILLOFSKY, New York, N. Y.—*Apparatus for Distilling*.—September 3, 1867.—The distillate is subjected to alternate condensing and boiling operations at gradually decreasing temperatures. The spirituous vapor passes to the condenser, and the low wine and water are returned to the doubler or still. The fusel oil is washed out in the operation.

*Claim.*—A series of condensing and boiling apparatus, arranged alternately and fitted in, substantially in the manner specified and for the purposes set forth.

**68,471.**—L. T. VERNEY, Paris, France.—*Printing Press*.—September 3, 1867.—Water is discharged on the water roller and is equally distributed by a felt covered bar reciprocating endwise on the printing cylinder. The ink is deposited by the rollers, and that upon the surface is removed by another roller. The paper is placed on the sliding plate in contact with the adjustable guides and perforated by the guide pins. The plate is then automatically brought to the printing and pressure cylinders and run through between them. A blanket is carried forward by the pressure cylinder upon its surface when the sheet is printing, which blanket is wound back on a spring-actuated drum at the discharge of the sheet.

*Claim.*—First, the plate K, its projections *p*, levers L, and connecting rods L', in combination with the shaft E, cylinder E', projections *p*<sup>2</sup> and *q*, the whole being constructed, arranged, and operating substantially as set forth.

Second, the adjustable guides *r*, pins *t* and *t'*, plates N, and levers O, arranged on the plate K, and operating in connection with the cylinder E', substantially as and for the purposes specified.

Third, the traversing ink reservoir H, its rollers *l* *l'* *l''*, in combination with the inking rollers *f'*, substantially as described.

Fourth, the combination of the above, the sliding roller *f'* and levers *n n*, the whole being arranged and operating substantially as specified.

Fifth, the vibrating bar I operating in combination with the cylinder E' and its plate E<sup>2</sup>, substantially as set forth.



Sixth, the traversing reservoir  $m'$ , in combination with the cylinder  $E^1$ , its plate  $E^2$ , and the roller  $f^3$ .

**68,472.**—JAMES C. WALKER, Waco Village, Texas.—*Grain Meter*.—September 3, 1867.—The grain is poured into a circular chute of known sectional diameter, falling through which it rotates a wheel, the revolutions being recorded on an indicator.

*Claim.*—The combination and arrangement of the wheel B, annular chute A, and brush C, in a grain meter, substantially as and for the purpose specified.

**68,473.**—J. V. WEITZ, Cleveland, Ohio.—*Low Water Detector for Steam Generators*.—September 3, 1867.—The governor is attached to the eccentric to which the cam is connected. As the eccentric is turned the pendent lug of the cam is more or less depressed according to the radial throw of the eccentric. When the lever and arm are brought to a vertical position the valve to which the lever is attached by a shaft closes the port, thereby shutting off the steam. To induct steam into the cylinder the valves are moved by an arm connected to the eccentric of the engine, which causes its oscillation.

*Claim.*—First, the arm H, stays  $k$ , weighted rods L L', as arranged, in combination with the sleeve F and valve C, for the purpose and in the manner set forth.

Second, the vertical arm M, crank M', and cam N, in combination with the valve C, as and for the purpose described.

Third, the lever N' when operated conjointly by the crank M' and weighted rods L, in combination with the valve B, as and for the purpose set forth.

Fourth, the eccentric Q, cam Q', and lug  $b$ , as arranged in combination with the cam N, for the purpose and in the manner substantially as described.

**68,474.**—TIMOTHY WHITBY, Lambeth, England.—*Armor for Ships of War*.—September 3, 1867; antedated August 29, 1866, in England.—The chain armor of chill cast, curved plates, attached by headed bolts, is bolted to the sides of the vessel and cased with iron sheeting.

*Claim.*—The protecting those parts of vessels and other structures that are required to be rendered shot proof by the combination of an exterior casing of chill cast metal blocks and wrought plating, the plating being employed to inclose and retain the chill cast pieces as herein described.

**68,475.**—LEVI H. WHITNEY, Vallejo, Cal.—*Vine Trellis*.—September 3, 1867.—The supporting wires extend from standard to standard, turning at regular distances around the thimbles to which the vertical and lateral wires are secured.

*Claim.*—First, the combination of the bearing wires B, lateral wires C, and vertical wires D, for the purpose of forming a trellis, as described.

Second, the thimble loop  $b$  shown in Fig. 3, substantially as and for the purpose described.

Third, the perforated tag G shown in Fig. 6, in combination with the trellis wires B, substantially as shown and described.

Fourth, the vertical wires D D equally spaced and spread apart at their upper ends, and grouped together at their lower ends so as to be secured at a single stake at the hill, substantially as shown and described.

**68,476.**—J. H. WINTERBOTTOM and J. LORD, Philadelphia, Pa.—*Spinning Jack*.—September 3, 1867.—The friction roller beneath the carriage bearing on the projecting slides on the pivoted lever raises or lowers the lever which connects with the driving belt and adjusts it to the fast or loose pulley, starting or stopping the jack.

*Claim.*—First, the lever U, adjustable slides X and Y, bar S, curved projection T and wheel R, in combination with a spinning jack, in the manner and for the purpose substantially as shown and described.

Second, the bar S, curved projection T and wheel R, in combination with the starting bar O of a spinning jack, substantially as described.

**68,477.**—CONRAD WITT and ANDRUS SINA, Davenport, Iowa.—*Hemp Brake*.—September 3, 1867.—The break knives on the cylinders mesh into each other.

The hemp is carried into the machine in its raw state, and taken from the machine after breaking by the canvas apron that runs on rollers, connected by an endless band with the gearing of the machine.

*Claim.*—First, the manner in which the flax or hemp is carried into and taken from the machine by canvas platform  $f$ , running upon rollers  $e^1 e^2 e^3 e^4$ , Fig. 2.

Second, the form of the construction of the cylinder break rollers  $e^1 e^2$ , with knives  $d$ , meshing into each other, and as regulated by slide journal  $l$ , Fig. 4.

Third, the cleaners  $j j'$ , shown in Fig. 2.

**68,478.**—ALBERT F. ALLEN, Providence, R. I.—*Escape Valve Hose Coupling*.—September 3, 1867.—The perforated sleeve is fitted round the perforated cylindrical portion of the hose coupling, so that the holes in the coupling are closed by the sleeve. When it is desired to interrupt the flow of water without stopping the engine, the sleeve is turned till the holes correspond.

*Claim.*—First, so arranging a hose coupling that the flow of water toward the nozzle can be instantly stopped or resumed without interrupting the working of the engine, substantially as and for the purpose herein shown and described.

Second, the perforated sleeve C, in combination with the perforated cylinder A and nuts  $a$  and  $b$ , all made and operating substantially as and for the purpose herein shown and described.

**68,479.**—R. L. ALLEN, New York, N. Y.—*Wagon Seat and Spring*.—September 3, 1867.—The springs are hinged to the support posts, so that the seat can be turned forward out of the way when required.

*Claim.*—First, hinging the springs to eyes  $a$ , formed above and in front of the posts B, so that the springs will have their fulcrum upon the outer ends of the posts B, and securing the seat D upon the said springs, substantially as and for the purpose herein shown and described.

Second, the posts B, springs C and seat D, in combination with the staples E, all made and operating substantially as and for the purpose herein shown and described.

**68,480.**—THOMAS D. ARKLE and HARRY C. GREER, Bridgeport, Ohio.—*Automatic Measuring Can*.—September 3, 1867.—The measure is contained in a lower chamber of the can, and communicates by a faucet with an upper part containing the oil. The index finger connected to the float indicates the fullness of the measure. The drip cup is extended by the spiral spring to catch the drip when the receiving vessel is removed.

*Claim.*—First, the construction and arrangement within the can A of the measuring vessel C, provided with the float C', to one side of which the index  $a$  is secured, as and for the purpose specified.

Second, the drip can G, connected with the inclined tube in the can A, near its bottom, provided with the spiral spring, all arranged as described, for the purpose specified.

Third, the combination and arrangement of the can A, having bottom B, provided with downward projecting discharge tubes, measuring vessel C, float C', index figure  $a$ , plate F, sliding drip pan G and inclined tube, containing the spiral spring and the pump H, as herein set forth for the purpose specified.

**68,481.**—PIERRE AUDAUIN, New York, N. Y.—*Washboard*.—September 3, 1867.—The two series of inclined ribs meet angularly at the center.

*Claim.*—The washboard, when constructed of the two boards B, having inclined grooves D, and fitting together in the center of the frame A, in such a manner that the grooves D incline downward upon each side from the center, whereby the water expressed from the clothes is allowed to run off freely, and without accumulating in the grooves, as and for the purpose specified.

**68,482.**—WM. BICKNELL, Hartford, Me., assignor to himself and ALFRED BICKNELL, South Reading, Mass.—*Crank Motion*.—September 3, 1867.—The auxiliary connecting rods assist in starting the engine, and enable the piston to use its power more advantageously in passing the dead centers.

*Claim.*—The employment of two or more auxiliary



rods D D', in combination with the pitman and crank of a reciprocating engine, arranged and operating substantially as and for the purpose herein described.

**68,483.**—JULIUS BLOOM, New Brunswick, N. J., and AUGUST BLOOM, New York, N. Y.—*House Fan*.—September 3, 1867.—The coiled spring actuates the gearing, and rotates the shaft to which the fans are attached.

*Claim.*—First, the combination of the fan wheel D, constructed as described, and the up and down swinging fan frame, arranged in front of said fan wheel, as herein set forth for the purpose specified.

Second, the construction and arrangement of the common fan holders K L, upright M, rod N, operated by the gearing B, as herein set forth for the purpose specified.

Third, in combination with the running gearing, the hook-shaped arm J<sup>4</sup>, fixed to rock shaft K<sup>4</sup> and L<sup>4</sup>, cross-bar M<sup>4</sup> on spindle N<sup>4</sup>, whereby the upward and downward swinging fan frame is operated, as and for the purpose specified.

**68,484.**—HORACE S. CARLEY, Cambridgeport, Mass.—*Bottle Stopper*.—September 3, 1867.—The slotted cork-holder can be moved up to release the cork, or slipped down to retain it, being held in position by the pin that engages in the slotted holder and the catch which embraces it below.

*Claim.*—First, the slotted cork-holder E, in combination with the pin G on the ring F, all made and operating substantially as and for the purpose herein shown and described.

Second, the above, in combination with the cam H, the same turning on the pin G, as and for the purpose described.

**68,485.**—HORACE S. CARLEY, Cambridgeport, Mass.—*Bottle Stopper*.—September 3, 1867.—The rods are secured to the stopper, and projecting down engage both the inside and outside of the neck.

*Claim.*—A bottle stopper, consisting of the cord A, made of india-rubber or other suitable material, and provided with one or more spring wires B B, which project downward from the cork, and which are made and operating substantially as and for the purpose herein shown and described.

**68,486.**—JAMES CARLISLE, Mount Gilead, Ohio.—*Rail for Buggy Seat*.—September 3, 1867.—The shifting rail is attached to the fixed rail by hooks which engage notched side projections of the fixed rail by pins, which enter vertical holes in the latter rail, and by catch notches in the depending back bars of the shifting rail.

*Claim.*—The bearing bar C, to a buggy or other seat, in combination with the rail E, when both are constructed so that the one will fasten to and upon the other, substantially as and for the purpose described.

**68,487.**—JESSE J. CASSIDY, Wilmington, N. C.—*Adjustable Ship Builders' Mold*.—September 3, 1867.—The flexible strips are united by screw bolts, and having been brought to assume the required curve according to the lines drawn on the floor of the shop, are then made rigid by the screws and transferred to the timber to be scribed.

*Claim.*—The adjustable parallel ship builders' mold, constructed and operating substantially as and for the purpose herein shown and described.

**68,488.**—E. S. CHAPPELL, Milton, Mass.—*Boring Bar for Boring and Screw Cutting*.—September 3, 1867.—For cutting threads in nuts or internal screw cutting. The round bar has eccentric turning points in the ends and the head slides and turns freely thereon. A cutter is attached to one end of the head and at the other is a lever by which the cutter is thrown in and out.

*Claim.*—The eccentric sliding boring bar A, in combination with the worm and gear g g', and lever q, constructed, arranged, and operating substantially as and for the purposes herein described.

**68,489.**—DANIEL W. COLBURN, Loami, Ill.—*Combined Plow and Hoe*.—September 3, 1867.—The shank of the hoe is connected by a screw nut to the socket of the handle, so as to be exposed in an in-

clined position and in a direction to act as an ordinary or a scuffle hoe.

*Claim.*—A hoe, having its blade C constructed of curved form, similar to the mold board of a plow, in order to east or throw the earth at one side, substantially as and for the purpose set forth.

**68,490.**—ELISHA P. CRAIN, New York, N. Y.—*Scale Beam*.—September 3, 1867.—The contractile rod is applied to the beam to rigidify the same.

*Claim.*—The tie rod C, arranged above a scale beam between the stud and front part f, substantially as and for the purposes herein shown and described.

**68,491.**—TURTULLUS S. DIBLIN, New York, N. Y.—*Fire Escape*.—September 3, 1867.—The flexible ladder unwinds from the windlass, which is secured to the bed-sill of the window frame by spurs and set screws.

*Claim.*—The combination of the fire escape, composed of a frame with its cross rods, spurs, screws, and windlass, and rope ladder, the whole arranged substantially as and for the purpose set forth.

**68,492.**—J. L. DICKINSON, Dubuque, Iowa.—*Variable Cut-off Valve Gear*.—September 3, 1867.—The stem of the oscillating valve has an arm that is operated by two eccentric rods to which it is connected by an adjusting slide. The governor controlling the slide regulates the periodic action of the cut-off and adjusts the throw of the cut-off valve.

*Claim.*—First, in combination with the sliding block C, formed of the parts 1 and 2, and actuated by the governor, substantially as shown and described, the eccentric rods E and F, acting upon the bar D, or its equivalent, and upon the oscillating valve, thereby imparting to the arm the motion of either eccentric rod as the speed of the engine requires, substantially as shown and described.

Second, the arm G, and bar D, in combination with the valve stem A, to support and maintain eccentric rods E and F at a uniform distance from the valve stem, or its equivalent, substantially as described.

Third, the two eccentric rods E and F, arranged with reference to the governor and arm G, for the purpose herein set forth.

**68,493.**—ANDREW DOWNER, Hammondsville, Ohio.—*Wagon Lock*.—September 3, 1867.—The draft being connected with the brake bar relieves the brake except when the wagon presses forward on the team.

*Claim.*—First, the combination of the system of levers F G J K with the jointed and slotted rod C, and with the brake bar M, substantially as herein shown and described and for the purpose set forth.

Second, Attaching the brake shoes R to the brake bar M by the ears r' and curved staples S, substantially as herein shown and described, and for the purpose set forth.

**68,494.**—W. L. DRAKE, Sturgis, Michigan.—*Brick Press*.—September 3, 1867.—The plunger has its bearing in the side groove of the eccentric cam wheel which actuates its forward and retrograde movements. A cam secured to the main shaft operating the lever elevates the slide stop that has formed a backing for the brick and thereby opens the passage for its projection.

*Claim.*—The box F, and plunger E, in combination with the slide or stop G, arranged to operate in the manner substantially as and for the purpose set forth.

**68,495.**—JOHN EDDY, Barnesville, Ohio.—*Steam Engine Governors*.—September 3, 1867.—One end of the lower lever is connected to the moving sleeve of the governor and its longer end to the shorter end of the upper lever. Another chain passes from the lower lever over a sheave to the throttle valve and a chain from the longer end of the upper lever passes to the same place.

*Claim.*—The combination of the pillar A, levers B C, connecting rod D, chains E F J, pulley G, and weight H, substantially as described, for the purpose specified.

**68,496.**—E. L. GAYLORD, Terryville, Conn.—*Piano Lock*.—September 3, 1867.—The lock is in-



tended for piano fortes, &c. It has two bolts which move in the arc of one or more circles.

*Claim.*—The two bolts E E, working on separate or on a common center or pivot *g*, in combination with a vertically moving slide B, connected with the bolts and all arranged substantially as shown and described.

**68,497.**—E. L. GAYLORD, Terryville, Conn.—*Piano Lock.*—September 3, 1867.—For similar use to the preceding lock. The bolts oscillate on one pivot, and have guide points traversing inclined slots in a horizontally moving plate, which is acted on by the key.

*Claim.*—The two bolts B B, arranged so as to work on a single pivot or centre *c*, or different pivots or centres, in combination with a horizontally moving slide connected with the bolts, as shown, and all arranged to operate in the manner substantially as and for the purpose set forth.

**68,498.**—HENRY GILL, Mansfield, Ohio.—*Screw-Plate for Cutting Screws.*—September 3, 1867.—The dies have segmental or circular faces, and are so arranged as to bring a fresh part to bear when a portion is worn.

*Claim.*—The circular dies C C, with plane surfaces *c c*, arranged, adjusted, and held in position, in the manner substantially as and for the purpose specified.

**68,499.**—J. S. GRANT, Sidney Center, Me.—*Bed Bottom.*—September 3, 1867.—The ends of the transverse slats rest on spiral springs of longitudinal wires attached to the side rails. The wires are connected at the head to vertically adjustable bars.

*Claim.*—First, the combination of the coiled-wire springs E, or their equivalent, the hooks or supports D, with each other, with the side and end rails B and C, and with the ends of the cross slats F, of the bedstead, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the adjustable supports G, with the springs E, and side rails B, of the bedstead, substantially as herein shown and described and for the purpose set forth.

**68,500.**—J. S. GRANT, Sidney Center, Me.—*Horse Rake.*—September 3, 1867.—The rake is held to working position by a spring bolt which engages a segmental rack, and on withdrawal of the bolt, the rake rolls up on the segmental rockers and discharges the hay. The rake teeth are kept up by a cord which is attached to the teeth, and passes over the rake head to a turning hand-knob.

*Claim.*—First, the shoes or rockers *b b*, in combination with the rake head A, arranged and operating as and for the purpose herein described.

Second, the forked handle D, having its prongs pivoted to the arms E E' on the rake head A, in combination with the segment rack *c*, the spring dog *h*, the levers *d g*, the cord *k*, provided with knob handle *m*, and the lifting brace *i*, constructed, arranged, and operating as and for the purposes herein set forth.

**68,501.**—R. W. HALLETT, Hudson City, N. J.—*Apparatus for Raising Sunken Vessels.*—September 3, 1867.—Chains are slung beneath the bottom of the ship and upon them caissons are lowered; stoppers running upon the chains hold down the caissons when the water is pumped out. The flotative power of the air chambers raises the vessel.

*Claim.*—First, the air chambers C, constructed substantially as herein described in combination with the chains B, flexible tubes D, and air chamber E, as and for the purpose herein shown and set forth.

Second, the combination of the clutches F, or their equivalent, with the chains B, and air chambers C, substantially as herein shown and described and for the purpose set forth.

**68,502.**—STEWART HARTSHORN, New York, N. Y.—*Shade Fixture.*—September 3, 1867.—Improvement on his patent October 11, 1864. The roller has a spring which automatically winds up the shade and maintains its tension independently of its position in its bearings in the brackets. One journal is square and is fastened to the bracket, the other is fast to the head, which is actuated by the enclosed coiled spring.

*Claim.*—The attaching of a pawl and ratchet or

notched hub to a window-shade roller, provided with a spring, or to parts connected with said roller, in such a manner that the tension of the spring will, without any manipulation or adjustment of parts whatever, always be preserved, whether the roller be fitted in the brackets or bearings or removed therefrom, substantially as set forth.

**68,503.**—GEORGE HATCH, Pomeroy, Ohio.—*Oil Can.*—September 3, 1867.—The oil can from which the oiler is filled is placed in the tray, whose floor has an opening for the stock of the pump, which is steadied by a sleeve, and held down by a hook, which engages a flange on the sleeve.

*Claim.*—Placing the pump in the recess B, and attaching and holding it in place by the pipe *a*, flange *c*, and hook *d*, substantially as described.

**68,504.**—REUBEN HAWORTH, South New Market, N. H.—*Centering Tool.*—September 3, 1867.—The spindle, with the drill in its end, is attached to the lathe, and around it is a sleeve supporting a centering cup which is driven forward by a coiled spring.

*Claim.*—The spindle A, and sleeve B, the cup C, the spring E, and the drill D, constructed, arranged, and combined and operating substantially as herein shown and described for the purposes set forth.

**68,505.**—CHARLES HAYDEN, Newark, N. Y.—*Trace Fastener.*—September 3, 1867.—The pivoted plate attached to the pin of the whiffle-tree is brought into line with the latter while the trace is slipped upon it and is then rotated 90°, so as to oppose the withdrawal of the trace.

*Claim.*—The pin A, when provided with the shoulder *a*, and ears *b*, in combination with the slotted plate B, and pin *c*, all made and operating substantially as and for the purpose herein shown and described.

**68,506.**—CARL OTTO HEYL, Berlin, Prussia, assignor to RUDOLPH SIEG, New York, N. Y.—*Apparatus for Extracting oil from Animal and Vegetable Substances.*—September 3, 1867.—The crushed seed is placed in a vase and subjected to the action of sulphuret of carbon; the products are then passed through a distilling apparatus and then through a purifier and a condenser. The remainder is purged from the sulphuret of carbon to render it suitable for cattle feed.

*Claim.*—First, the construction and arrangement of the basis A, sulphuret of carbon vessel B, distilling vessel C, connecting pipes *a*, purifying vessel F, basins G and H, connected by space *f*, desiccating apparatus J, condenser P, and reservoir S, as herein set forth for the purpose specified.

Second, the construction and arrangement of the desiccating apparatus J, provided with screw conveyor K, revolving vertical shaft N, having arm L, provided with teeth or buckets and blowers M, as herein shown and described for the purpose specified.

Third, the construction of the suspended vase, provided with a removable perforated bottom having central conical projection and a removable perforated partition near the top, whereby the seed chamber A is formed, as herein shown and described for the purpose specified.

Fourth, the combination of the basins G H, when connected together by the space *f*, having the downward projections *g*, as herein set forth for the purpose specified.

**68,507.**—J. D. HILL, Fort Scott, Kansas.—*Gathering and Husking Corn.*—September 3, 1867.—The forked guides collect the stalks and guide them to the knife, which cuts off the ears; these fall into the spout, and passing through the cylinder are husked by the hooked teeth.

*Claim.*—First, removing the husks from the ears of corn, substantially in the manner herein shown and described; that is to say, by means of hooked teeth with cutting edges attached to an endless apron or belt.

Second, the combination of the belt or endless apron K, having hooked teeth S and buckets T attached to it, the shafts J and L, and receptacle R, with each other and with the frame C, substantially as herein shown and described and for the purpose set forth.



Third, the combination of the pulley D, band E, pulley F, shaft G, and bevel gear wheels H and I with each other and with the wheel A, frame C and shaft J, for the purpose of imparting motion to the endless apron K, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the guides M, constructed as described, knife O, and spout P with each other, with the frame C, and receptacle R, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of the fans U, shaft V, pulleys Y and Z, and belt X with each other and with the shaft L, frame C, and endless apron K, substantially as herein shown and described and for the purpose set forth.

**68,508.**—G. F. HIPP and J. B. FAST, Nova, Ohio.—*Hay Elevator.*—September 3, 1867.—The rope passes over guide pulleys to the skeleton drum, which rotates in a cavity beneath the floor, and is rotated by a sweep when the latter is hooked thereto, or independently of the sweep in running out the rope without backing the horse.

*Claim.*—The wheel D and sweep J, in combination with each other, when said wheel and sweep are constructed, arranged, and operated substantially as herein shown and described and for the purpose set forth.

**68,509.**—T. N. HORNSBY, Simpsonville, Ky.—*Manufacture of Cannon.*—September 3, 1867.—The sheet is coiled around the central tube, the serrated edge being lapped over the conical end which encloses the breech pin. The sheet is also notched to receive the muzzle band. The trunnion brace is shrunk on and the breech strengthened by a block and circumferential bands.

*Claim.*—Constructing cannon in the manner described and of the several parts specified, consisting of the tube B, having notches *g h*, notched sheet A, bands *d f*, breech piece D, trunnion brace G, breech band H, and breech J, as herein set forth.

**68,510.**—J. P. R. JAMES, Read's Landing, Minn.—*Clothes Pin.*—September 3, 1867.—The arms of the spring are secured by staples to the shanks of the jaws.

*Claim.*—The spring C, when secured to the jaws A by having its long arms C fitted in dovetail grooves upon the inner face of the jaws A, and held in position by means of the staples *a*, whereby all lateral movement of said jaw is prevented, as and for the purpose specified.

**68,511.**—WILLIAM JOHNSON, Shirleysburg, Pa.—*Tanning Composition.*—September 3, 1867.—Take of bark, 1 cord; terra japonica, 100 lbs.; saltpeter, 10 oz.; ammonia, 10 oz.; urine, 20 galls.; salt, 6 qts.; glauber salt, 10 oz. This amount suffices to tan 1,000 pounds of green calf skins in 10 days.

*Claim.*—An improved tanning composition, formed by the combination of the above-mentioned ingredients with each other, substantially in the proportions herein set forth.

**68,512.**—COLUMBUS JOHNSTON, Clarksville, Mo.—*Charger for Shot Pouches.*—September 3, 1867.—By forcing down the plunger the communication with the pouch is closed, and the charge is allowed to pass to the tube, which conducts it to the gun. The piston head is adjustable to vary the capacity of the charge chamber.

*Claim.*—First, the combination of the inner and outer tubes A and B, having side ports and discharge tubes I, when all are arranged together substantially as and for the purpose described.

Second, the adjustable plunger or piston head N to the inner tube A, substantially as described for the purpose specified.

**68,513.**—OBADIAH JONES, South Englewood, N. J.—*Leather-backed Horse Brush.*—September 3, 1867.—The brush with a flexible back is bent upon the handle whose convexity is obtained by fastening to it pieces of leather of diminishing size.

*Claim.*—The round-faced leather-backed horse brush, constructed as described, consisting of the strips of leather D of unequal length glued together

and to the back A, composed of strips of leather *a*, the bristle plate B, secured to the smaller pieces of the core D bent around said core and secured to the back A as herein set forth for the purpose specified.

**68,514.**—E. C. KELLOGG, Rome, N. Y.—*Cattle Pump.*—September 3, 1867.—The weight of the cattle on the platform depresses the hollow piston rod and the piston, and causes water to ascend in the former and run into the trough. When the cattle retire, the weight restores the former position and water flows into the cylinder.

*Claim.*—The platform A bearing the rocker beam G, arranged in relation with the oscillating cylinder, as herein set forth for the purpose specified.

**68,515.**—JOHN KNOX, Mount Gilead, Ohio.—*Thill Coupling.*—The eye on the end of the thill-iron is slotted so as to allow the passage of the spring bar, which protrudes through the socket and into a circumferential groove in the pintle, which is thereby restrained from working out.

*Claim.*—The spring *c* combined with the slotted eye bolt *e* and grooved coupling pin *g*, arranged and operating substantially as described.

**68,516.**—S. B. LANE, Waterbury, Conn.—*Machine for Making Button Rings.*—September 3, 1867.—The wire is wound spirally around the rotating pin and is cut at the necessary intervals to form the button ring by a knife attached to the rotating shaft.

*Claim.*—First, an improved machine for making button rings, made and operating substantially as herein shown and described.

Second, the revolving pin B', in combination with the knife D and roller F, all made and operating substantially as herein shown and described.

**68,517.**—G. C. LATHROP, Danville, Mich.—*Sawing Machine.*—September 3, 1867.—The pitman is pivoted to the lower end of the oscillating frame and is attached to the horizontal saw. By setting the frame in motion, reciprocating motion is imparted to the saw to which springs are attached to balance the action.

*Claim.*—First, the arrangement of the oscillating frame G, pivoted at its center upon its cross heads X, spring L, weight T, pivoted spring seat Q, guide M, and saw K, as herein set forth for the purpose specified.

Second, the adjustable toothed supports E, passing through the frame A and the pawls F, constructed and arranged as described, whereby the level of the machine is regulated as herein shown and described.

**68,518.**—LUTHER B. and GEORGE W. LEE, Jerusalem, N. Y.—*Fly Net.*—September 3, 1867.—Each strand passes several times through the strap so as to prevent its displacement by being pulled through by accident or carelessness, marring the symmetry of the arrangement.

*Claim.*—A leather fly net having its horizontal or longitudinal strips A, placed edgewise with the strands B, passing directly through the same a plurality of times, in the manner of a lacing and in a vertical direction, substantially and in the manner as and for the purpose herein set forth.

**68,519.**—H. E. LONG, Plymouth, Ind.—*Wood Vice for Joiner's Bench.*—September 3, 1867.—The face plate on the movable jaw adjusts itself to the shape and thickness of the object to be clamped. The movable face plate is backed by a pivoted button and head, the latter being adjustable on the movable jaw.

*Claim.*—The combination of the pivoted head E having the pivoted button H and provided with the holes for the passage of the arms I pivoted to the face plate G, said face plate having the plate *g'*, constructed as herein set forth for the purpose specified.

**68,520.**—E. F. MALLORY, West Springfield, Pa.—*Burglar Alarm.*—September 3, 1867.—The screw is inserted into the door casing; the hook loop is drawn forward until its shoulder abuts upon the head of the screw, when it is secured by its hook to the door. If the door be opened the end of the spring is raised, the hooks are detached, and the hammer falls, exploding the cap.



*Claim.*—The combination of the spring A provided with anvil head in combination with hook loop when both are constructed and arranged together for operation substantially as and for the purpose described.

**68,521.**—S. B. MANLEY, Cory, Pa.—*Obstetrical Supporter.*—September 3, 1867.—The india-rubber air cushion which forms the back pad is connected by non-elastic side straps to the elastic knee and foot straps.

*Claim.*—The elastic or air cushion B provided with side straps F and elastic knee and foot bands or straps, substantially as and for the purpose described.

**68,522.**—EDWARD MASTERS, Cleveland, Ohio.—*Yard for Ship.*—September 3, 1867.—The arms unite in a wooden hub, and are strengthened by brace rods and metallic ring plates.

*Claim.*—The improved yard made in three parts A B B, and strengthened by brace rods D and ring plates *c'* G F, substantially as herein shown and described and for the purpose set forth.

**68,523.**—D. C. MCNEIL, De Witt, Iowa.—*Churn.*—September 3, 1867.—The dashers are rotated by means of a treadle, lever, and connecting rod, and have their bearings in suspended bars.

*Claim.*—First, the churn, consisting of the churn box A and paddle dashers C C', all as set forth, in combination with the treadle F, connecting rod, working beam, and crank, or their respective equivalents, in manner substantially as above set forth and described.

Second, the paddle dashers C C', having their axis D journaled in the movable uprights *b* in manner and for the purposes substantially as described.

**68,524.**—MARTIN J. MELLYN, Roxbury, Mass.—*Adjusting Thills to Carriages.*—September 3, 1867.—By means of the lever clamp the rubber, which is placed in contact with the thills to prevent rattling, is compressed, so that the thills may be easily attached.

*Claim.*—The lever A and the clamp B, formed of the parts C and D, arranged and combined substantially as described for the purposes specified.

**68,525.**—W. A. MOODY, Montezuma, Iowa.—*Cultivator.*—September 3, 1867.—The beams are connected so as to work coincidently; they are suspended in front by links from the carriage frame, and are vertically adjusted by chains which pass over cams on the axis of levers.

*Claim.*—The fitting of the front ends of the plow beams G G on pendent rods F, and connecting the beams by chains M to eccentrics L on a shaft K, the beams being connected by a bow-shaped rod or bar H, all arranged to operate in the manner substantially as and for the purpose set forth.

**68,526.**—ROBERT M. MORIELL, Plymouth, Ind.—*Clothes Dryer.*—September 3, 1867.—The skeleton frame is supported on feet, and has radial pivoted wings which collapse for storage but expand and rest upon the floor for the purpose of supporting clothes.

*Claim.*—First, the posts *f'* of the wings F, pivoted to the cap C and base A, and slotted to receive the ends of the bars *f''*, as herein set forth, whereby the wings F are operated independently of each other, as and for the purpose specified.

Second, the combination and arrangement of the pivoted and slotted posts *f'*, removable cap C, removable base A, and standard D, as herein described for the purpose specified.

**68,527.**—WM. H. MURPHY, Versailles, Ohio.—*Padlock.*—September 3, 1867.—The lever is attached to the bolt, and the parts are operated by a peculiar series of motions, which cannot be practiced by those unfamiliar with the construction.

*Claim.*—The lever F, in combination with bolt D, when both are constructed, arranged, and hung together substantially as and for the purpose described.

**68,528.**—SETH W. PERKINS, Geneseo, Ill.—*Wire Snap Hook.*—September 3, 1867.—The rebent ends of the wire form a mousing snap hook, and the tongue in connection with the coil loop forms a buckle.

*Claim.*—An improved snap hook formed of a single piece of wire bent into substantially the form shown and described, that is to say, with a ring loop

*a'* to receive the strap, and with its hooked ends *a''* overlapping each other, in combination with the single or double buckle tongue, as and for the purpose set forth.

**68,529.**—ADRIAN RAIS, Waterbury, Conn., assignor to the SCOVILLE MANUFACTURING COMPANY, same place.—*Machine for Making Butt Hinges.*—September 3, 1867.—The right and left match blanks that form the hinge are automatically conveyed from the feed boxes upon the periphery of the rotating dial plates, which first present the blanks to dies for bending the knuckles. The blanks are next presented to the mills, and after being milled the match blanks are riveted and discharged from the machine.

*Claim.*—First, the rotary carrying disks D D, with radial slides for receiving the right and left hinge blanks from the feed boxes C C, and conveying them successively to the bending, milling, and nailing devices, constructed and operating substantially as herein shown and described.

Second, the pawls *a a*, connected with the slides E E, in combination with the rotary carrying disks D D, all constructed, arranged, and operating substantially as and for the purpose herein described.

Third, the spring dogs *a'' a''*, in combination with the rotary carrying disks D D, all constructed, arranged, and operating substantially as and for the purpose herein described.

Fourth, the slides E' E', provided with the arms *e e'*, in combination with the rotary carrying disks D D, arranged and operating substantially as and for the purpose herein described.

Fifth, the combination of the rotary carrying disks D D, with the devices described, for bending, milling, and nailing the hinge blanks, the said combination being organized and operating substantially as herein shown and described.

**68,530.**—ROBERT RICE, Mineral, Ill.—*Fly or Balance Wheel.*—September 3, 1867.—The fly wheel has slotted apertures for holding water.

*Claim.*—A fly or balance wheel, provided internally with compartments of the form substantially as shown, and partly filled with water or other suitable fluid, to operate in the manner and for the purpose set forth.

**68,531.**—IRA ROBBINS, Hughesville, Pa.—*Alarm Money Drawer.*—September 3, 1867.—On the under side of the drawer is a series of spring keys, which cause the bolts to fall and allow the opening of the drawer by turning and pulling the handle. Pins operate through the slotted bottom of the drawer to pull forward inclines on which the bolts rest, whereby they drop, and let fall the spring to clear the bell hammer.

*Claim.*—First, the sliding keys *a*, the inclined rest *d*, and bolts *e*, acting in the manner and for the purpose substantially as shown and described.

Second, the collar *r*, as attached to the handle of the drawer, operating in the manner and for the purpose substantially as described.

**68,532.**—W. S. ROONEY, Albany, N. Y.—*Molasses Cup.*—September 3, 1867.—The spout is covered by the lid, so that flies cannot reach it, and the drip is secured within the vessel.

*Claim.*—The construction and arrangement of the semicircular plate D, secured to one side of the pitcher A in an inward inclined position, and provided at its center and lower edge with the inclined spout C, as herein set forth, for the purpose specified.

**68,533.**—ELI S. SEGAR and SAMUEL L. SMITH, Yonkers, N. Y.—*Clamp for Hinges.*—September 3, 1867.—The clamp plate is put over the protruding part of the butt hinge and is held by the cam.

*Claim.*—A clamp for hinges, &c., consisting of frame A and eccentric or cam C, substantially as and for the purpose described.

**68,534.**—JACOB SHAEER, Reading, Pa.—*Sled.*—September 3, 1867.—The runners support a frame similar to an extension stool, crossing diagonally from each rave to the opposite runner, and having a binding floor and top.

*Claim.*—A sled, constructed substantially as and for the purpose described.



**68,535.**—JAMES L. SHORT, Gosport, Iowa.—*Trace Fastener*.—September 3, 1867.—The trace link enters the case, which is attached to the singletree or thill, and it is engaged by the spring catch. The catch may be raised by a cord in reach of the driver, to detach the trace.

*Claim.*—First, the metal box A, attached to the shaft or singletree, substantially as described.

Second, the catch B, held down by the spring C, combined with the trace tug E, or their respective equivalents, substantially as and for the purpose described.

Third, the singletree attachment formed of the box A, catch B, and spring C, or their respective equivalents, substantially as described.

Fourth, the combination with the above-described singletree attachment of the guard D, or its equivalent, substantially as described.

Fifth, the employment of the safety cord d, with the singletree attached, with or without the guard D, substantially as herein specified and described.

**68,536.**—HARMON M. SMITH, Kalamazoo, Mich.—*Hay Knife*.—September 3, 1867.—The knife is offset from the staff, is serrated on the edge, and its shank is bent into a foot rest.

*Claim.*—The blade A, in combination with the shank B, curved or bent to a form, a semicircular foot-piece b, and fitted in a handle C, all arranged substantially in the manner as and for the purposes specified.

**68,537.**—JAMES M. SMITH, Seymour, Conn.—*Chuck*.—September 3, 1867.—The jaws are adjusted longitudinally by a screw collar having a groove receiving projections at their inner ends. The points are clamped upon the tool by the conical screw-nut at the point.

*Claim.*—First the screw collar D\* fitting over the tube B, and provided with the groove h, for receiving the right angular arm a\* of the jaws C, and with the flange f fitting into the groove e of right angular arm of said jaw, as herein set forth for the purpose specified.

Second, the jaws C, when provided with the flanges d, and having their inner right angular ends connected to the screw collar D\*, arranged in relation with the tube B, having the circular plate A, whereby articles of any length are held, passing through said tubes and plate as herein shown and described.

Third, the construction and arrangement of the annular plate A, double screw-threaded tube B, collars D\* and D, and flanged jaws C, as herein shown and for the purpose specified.

**68,538.**—B. F. SOUTHGATE, Bridgewater, Vt.—*Diamond Key*.—September 3, 1867.—The spline key is diamond-shaped in cross section, and fits into the groove in the shaft and bearings, to lock them together.

*Claim.*—The diamond key C, fitting in v A-shaped grooves in shaft and bearing, or their respective equivalents, in manner and for the purposes substantially as described.

**68,539.**—C. N. TAYLOR, Cookstown, N. J.—*Grinding Mill*.—September 3, 1867.—The grain bears upon a hinged plate, to which is attached a cord which passes through the hopper and is so connected to the striking mechanism that when the cord is freed the projection upon the top of the stone operates the alarm hammer.

*Claim.*—The combination of the plate a in the hopper with the cord or chain C, swinging bell B, elbow clapper e, and pin or stud f, substantially as and for the purpose herein shown and described.

**68,540.**—WILLIAM WELCH, Bridgeport, Conn.—*Locking Device for Gates in Presses*.—September 3, 1867.—The rotating hooks are secured to the covering plate and catch into recesses in the gate so that the plate can be quickly secured or removed from the front of the gate. The sliding box is made in halves to facilitate getting at the bearing of the shaft.

*Claim.*—First, the plate C, secured to the gate of a power press by means of the pins e, having cranks f and slotted plates h, as herein shown and described.

Second, the box B, when made of two pieces in

combination with the plates d d, for the purpose of permitting the easy removal of the box, substantially as herein shown and described.

Third, the arrangement of the removable box B, between the plates d and pins e, on the plate C, as herein set forth for the purpose specified.

**68,541.**—A. B. WOODBURY, Ashuelot, N. H.—*Spinning Jack*.—September 3, 1867.—The spring pin on the twist-gear wheel regulates the traverse movement of the jack by tripping a catch that holds the slide bar and thereby shifting the driving pulley and reversing the motion of the jack. The action of the spring enforces the drawing out of the jack to the full distance and consequent production of an even twist.

*Claim.*—First, the movable pin n, provided with a spring in combination with the twist-gear wheel h, arranged and operating substantially as and for the purposes herein described.

Second, the cap cover q, connected with the lever l, in combination with the movable pin n, the twist gear h, the stop k on the cord j, and the jack C, arranged and operating substantially as and for the purposes herein set forth.

**68,542.**—ANTON ZWIEBEL, Burlington, Wis.—*Universal Joint*.—September 3, 1867.—The elongated shanks for attachment of the axles to the knuckles have renewable wooden pins which turn in bearings in the ring.

*Claim.*—The combination of the ring A, having semicircular flanges a b, wooden pin B, lips d on knuckles e, and shank C, all constructed as described.

**68,543.**—C. R. ABBOTT, Elmira, N. Y.—*Safety Car Platform*.—September 3, 1867.—The telescopic platform with sockets packed with rubber is attached between the locomotive and the cars, or between the cars, for the greater safety of passengers and brakemen.

*Claim.*—The safety way herein described, when composed of the sliding tubes or bars e and f, socket joints g and cross head a b, substantially as and for the purposes set forth.

**68,544.**—J. K. ANDREWS and J. DELOSS GREEN, Autrim, Ohio.—*Corn Planter*.—September 3, 1867.—The plow and hopper frame is hinged to the main frame. The rear end of the main frame and the fore end of the plow frame are supported on rollers. One of the latter is concave on the periphery, and compacts the ground on the seed. The lower portion of the spout has rollers by which it is accommodated to the ground surface. The plow may be raised from the ground by a lever when moving from the field.

*Claim.*—First, the two frames A and B, hinged together, as seen, and provided with the wheels F E and G, when used and operating as and for the purpose set forth.

Second, the hopper J, bar K, and roller L L, arranged and used with the frame A, as and for the purpose set forth.

Third, the arrangement of the lever a, bar d, with the frames A and B, and bar K, as and for the purpose specified.

Fourth, the rollers L L, or their equivalents, used in the manner substantially as and for the purposes set forth.

**68,545.**—HARRISON W. AUSTIN and WM. SCHAW, Kalamazoo, Mich.—*Plow Clevis*.—September 3, 1867.—The vertical bar of the clevis has a supplementary hook on its upper arm for the attachment of a whiffletree for a third horse.

*Claim.*—The construction and arrangement of the vertical bar A, double tree D, single tree E E and F, as herein described for the purpose specified.

**68,546.**—JOHN G. BAKER, Philadelphia, Pa., and WM. HARBSTER, Reading, Pa., assignors to THE ENTERPRISE MANUFACTURING COMPANY OF PENNSYLVANIA.—*Rotary Measuring Faucet*.—September 3, 1867.—Improvement on the patents of Ira Kiuman, May 13, 1859, and of John G. Baker, July 10, 1866. The strainer is inserted in the inlet pipe, and is a guard to the faucet. The liquid passing through the strainer is, by a revolution of the rotating slide, forced up to the valve and runs into the vessel placed



to receive it. A spring throws the valve back and cuts off the flow of liquid.

*Claim.*—The valve *c'*, constructed and operating substantially as described, in combination with the rotary measuring faucet.

**68,547.**—HENRY A. BARTLETT, Philadelphia, Pa.—*Machine for Connecting Strips of Metal.*—September 3, 1867.—The strips of metal are placed on the former with the ends lapped over the dies. The clutch being then thrown into gear, motion is given to the machinery driving the punches and the riveting dies.

*Claim.*—First, the former D and D', dies *g g'*, and *g''*, when constructed and operating substantially in the manner and for the purposes set forth.

Second, the combination of the clutch, as described, with the former D', by means of levers *e e' f o i i' j' l m*, and the whole operating substantially as described and for the purposes set forth.

**68,548.**—JAMES B. BEAN, Baltimore, Md., assignor to himself and A. H. BALDERSTON, same place.—*Casting Aluminum.*—September 3, 1867.—The metal is cast into fine molds, under pressure of a high column of the metal contained in a conduit of soapstone, heated to about the melting point. The molds and conduit at the moment of casting are filled with hydrogen gas.

*Claim.*—First, the flask B B', in combination with the frame or holder A, having the posts *a a a a*, and the set screw *a' a'*, constructed as and for the purpose specified.

Second, the flask B B', having the vents C C and the gate *d*, all constructed and arranged substantially as described.

Third, stopping the vents C C with the small rods *e e e*, as and for the purpose set forth.

Fourth, the conduit D, composed of soapstone or other similar material, in combination with the gate *d*, as described.

Fifth, supplying fluid metal to compensate for the contraction of the metal in the mold, as well as to secure a denser casting by means of the detachable reservoir D, heated previous to pouring the metal, substantially as described.

Sixth, expelling the atmospheric air from the mold by means of, and substituting therefor, a gas which is destitute of oxygen, in the manner and for the purpose set forth.

Seventh, the flasks B B', constructed, gated, and rented, substantially as described, in combination with an interior lining composed of pumice stone and plaster of paris, in proportions substantially as set forth.

**68,549.**—JOSEPH BENSON, SAMUEL BENSON, and WM. BENSON, Lebanon, Pa.—*Cultivator.*—September 3, 1867.—The shovel standards are laterally adjusted on their pivots by washers, and elevated by the lever. The rotating markers define the lands.

*Claim.*—First, the use of the blocks *g g'*, more or less in number, and the blocks *z z*, more or less in number, arranged upon the rods *i*, and so combined with the standards *f* as to allow the arrangement of either standards or blocks on either side of the bars *s s* when desired, and for the purposes specified.

Second, the guides *h h*, when arranged, combined and used substantially in the manner described and for the purposes set forth.

**68,550.**—E. L. BERGSTRESSER, Hublersburg, Pa.—*Plow.*—September 3, 1867.—The slotted angle iron is attached to the beam and standard so that the rear end of the beam may be adjusted vertically for varying the depth of furrow or laterally for regulating its width.

*Claim.*—First, the slotted plate or plates whereby the angle of presentation of the plow, both vertical and horizontal, is adjusted, in the manner described.

Second, the block standard or plate, to which the handles are connected, adapted to fit and to be adjusted upon the adjacent face of the plate, or angle iron attached to the plow beams, substantially as described.

Third, the angle iron, constructed as described, or its equivalent, provided with the vertical and horizontal slots, and adapted to be used in connection with

the plow beams and handles, or handle blocks, substantially as and for the purpose set forth.

**68,551.**—B. R. BOYNTON, Keeseville, N. Y.—*Bed Bottom.*—September 3, 1867.—The slats are supported on spiral springs, and attached by straps that connect them to the bearers.

*Claim.*—Providing the slats with slots and the springs with loops, upon their upper ends, said loops being pressed through the slots and confined by means of straps, substantially as specified.

**68,552.**—EDWARD T. BRIGGS, Boston, Mass.—*Curtain Fixture.*—September 3, 1867; antedated August 26, 1867.—One end of the cord is secured to the rod around which the roll rotates, and to which the spring is attached. The other end of the cord is secured to a block that is fitted into the roll, moving simultaneously therewith. The curtain, when rolled up by the recoil of the spring, winds the rope around the rod and prevents the further action of the spring.

*Claim.*—The tape L, or its equivalent, for connecting the rod or spindle D to the block K or to the casing A, operating substantially in the manner and for the purpose set forth.

Also, the bracket H, with its bearings, and the lever M, with its notch or recess L, in combination with the plate G, or its equivalent, with its arbor 8 and projections *d e*, constructed, arranged, and operated substantially as and for the purpose set forth.

**68,553.**—NICHOLAS BURCH, North Fairfield, Ohio.—*Fence Gate.*—September 3, 1867.—The gate is hung to the post between the rotating guides, the bars engaging against anti-friction rollers.

*Claim.*—First, the rotating guide F and eye G, in combination with the gate, substantially as and for the purpose set forth.

Second, the rotating guide F, roller L, guide rollers K, bracket G, in combination with the gate, substantially as and for the purpose set forth.

**68,554.**—O. C. BURDICT, New Haven, Conn.—*Carriage Bolt.*—September 3, 1867.—The bolts have ribs formed on them next to the heads to keep them from turning.

*Claim.*—A bolt having formed upon one or more sides of its neck a rib *a*, substantially in the manner and for the purpose as set forth.

**68,555.**—O. C. BURDICT, New Haven, Conn.—*Machine for Heading Bolts.*—September 3, 1867.—The continued movement of the driving shaft forces the upsetting die against the end of the blank, upsetting it sufficiently to form the head; the four side dies are then forced against the upset portion of the blank and compress it into a four-sided head.

*Claim.*—The combination of the dies *a a* and *b b*, acting simultaneously and moved in guides radially to a common center, by means of the levers N and cams P, in combination with holding dies E and E' and upsetting die M, all constructed and arranged to operate substantially in the manner as herein set forth.

**68,556.**—O. C. BURDICT, New Haven, Conn.—*Nut Machine.*—September 3, 1867.—The punch moves in the slides by the action of an eccentric on the driving shaft. The levers, corresponding to the number of sides to the nut, are hung in a pivoted head so that the shorter arm of the levers operates on slides that carry the sides of the die and close them together, making the die in which the nut is formed.

*Claim.*—First, the levers L, arranged so as to operate the several sides of the die, in combination with the crowner *i* and the punch F, all arranged to operate substantially in the manner described.

Second, the combination of the weight W with the crowner *i*, arranged so as to make the said crowner self-adjusting, substantially in the manner described.

Third, the auxiliary swaging dies 22, when arranged to operate with the two parts of the die *e e*, substantially as and for the purpose specified.

**68,557.**—JAMES A. BURNS, New Haven, Conn., assignor to himself and T. B. CARPENTER, same place.—*Plate Lifter.*—September 3, 1867.—The swing lifter suspended from the handle embraces the dish with its hooks.



*Claim.*—The two clasps B and C, in combination with the handle A, when the said clasps are both hinged to the handle, and constructed and arranged so as to operate substantially as described.

**68,558.**—ROBERT CARMICHAEL, Newark, N. J., assignor to FREDERICK STEVENS, Essex county, N. J.—*Skates.*—September 3, 1867.—By the rotation of the screw rod the segment racks are moved and the clamp pins on the latter are brought against the heel and sole of the boot.

*Claim.*—The combination of the clamp F F, as constructed with the screw shaft E, as and for the purpose set forth.

**68,559.**—ERNEST DEMING, Middletown, Conn.—*Check Hook.*—September 3, 1867.—The screw shank of the hook fastens to the gig-tree and the spring tongue opens to admit or detach the rein.

*Claim.*—The check hook A, formed with a screw shank Z and nut C and combined with a tongue D, substantially as described, as an improved article of manufacture.

**68,560.**—JOHN E. FINLEY, Memphis, Tenn.—*Churn.*—September 3, 1867.—As the dasher is depressed the cups carry down air, and the flanged dashers are rotated in different directions.

*Claim.*—The combination of the flanged wheels C C C F with the air cups D D, the thimble B, and middle thimble E and thumb-screw E, the nut H, and key I, for the purpose herein set forth.

**68,561.**—WILLIAM F. GOODWIN, East New York, N. Y., and CHARLES R. SQUIRES, New York, N. Y.—*Process for Disintegrating and Desulphurizing Ores and Minerals.*—September 3, 1867.—Explained by the claims.

*Claim.*—First, the use of oyster, clam, or other shells or bone for the purpose of desulphurizing, disintegrating, dissolving, and separating rocks and ores, in the manner substantially as described.

Second, burning oyster, clam, or other shells or bone, or limestone, in furnaces or retorts, with rock or ore, for the purpose of disintegrating or desulphurizing such ore or rock preparatory to extracting the gold or other precious metals, substantially as described.

Third, burning oyster, clam, or other shells, or limestone or bone, in retorts, and securing the gases obtained therefrom in bags or vessels, to be used as and for the purpose substantially as described.

Fourth, heating rock or ore in a retort, for the purpose of disintegrating and desulphurizing the same, and also for the purpose of securing and retaining the particles of the precious metals, which may be driven off from the ore and deposited in a vessel, substantially as described.

**68,562.**—R. H. GUILFORD, West Cheshire, Conn.—*Button.*—September 3, 1867.—The button from a continuous piece of wire is bent so as to form eyes for attachment.

*Claim.*—A button formed of wire, as a new article of manufacture, substantially as herein set forth.

**68,563.**—PATRICK HACKETT, New Genesee, Ill.—*Seed Sower and Plow.*—September 3, 1867.—The shovel-plow frame and the broad-cast seeding cylinder are supported by wheels, guided by handles, and drawn by the team attached to the tongue. The cylinder is rotated by a band from a drum on the axis of one of the wheels, and its openings are adjustable or closable.

*Claim.*—First, the combination of the seeding cylinder D and the fixed plow H and removable plow H' so that the machine may be used for seeding, cultivating, or plowing corn, substantially as described.

Second, the combination of the frame B with arms B<sup>2</sup>, beams G, and shovel standards H and H', and rod I, arranged substantially as set forth.

Third, the combination of the tongue A, frame B, and plows with the rod I, constructed and arranged to operate substantially as described.

Fourth, the combination of the wheels C, pulleys E and F, and seeding cylinder D, constructed with adjustable slides D', and arranged to operate substantially as set forth.

**68,564.**—WILLIAM H. HENDERSON, Franklin, Ind.—*Boilers for Culinary Purposes.*—September 3, 1867.—The flange extends down into the pot so as to confine the steam and prevent its escape between the steamer and its containing vessel.

*Claim.*—The steamer B, provided with a flange C extending down into a pot or vessel A, as and for the purpose specified.

**68,565.**—DAVID W. HENDRICKSON and JAMES P. MCLEAN, New York, N. Y., assignors to DAVID W. HENDRICKSON, same place.—*Blast Furnace for Making Iron.*—September 3, 1867.—The annular boiler surmounts the ore chamber of the furnace, and its steam passes by a pipe to a tube where it is associated with a hot blast from an air pump, and the combined fluids are driven through the tuyeres into the furnace.

*Claim.*—First, the use of the air pump C, to produce and keep up a uniform blast.

Second, commingling the superheated steam and hot air in the same tuyere or tuyeres E E', which are suitably arranged through the walls of the furnace A and operated by means of an air pump, or its equivalent power, substantially as above set forth.

**68,566.**—DAVID W. HENDRICKSON and JAMES P. MCLEAN, New York, N. Y., assignors to DAVID W. HENDRICKSON, same place.—*Furnace for Making Iron.*—September 3, 1867.—The jacket boiler surmounts the ore chamber, forming the tunnel head of the furnace. An inclined chute passes through the boiler and is the means of supplying the ore and coal. The pipes conducting the steam are laid in cement.

*Claim.*—First, the vertical flue D through the center of the boiler, and forming a part of the same, with shoot s, which passes transversely through the boiler B, at any suitable angle for the purpose, set forth and shown in the drawings.

Second, the non-conducting plastic coating P P P'', P'' P''' P''', prepared and applied in the manner and for the purpose substantially as described.

**68,567.**—JOHN KOYL, Rockford, Ill.—*Nail Clincher.*—September 3, 1867.—The steel faces of the clincher are adjustable, being hinged to the jaws so as to conform to the various forms of hoofs, one face resting below the shoe and the other clinching the nail.

*Claim.*—A clincher, when constructed with adjustable heads A<sup>1</sup> or B<sup>1</sup>, substantially as set forth.

**68,568.**—MOSES MCELROY, Springfield, Ill.—*Hay and Cotton Press.*—September 3, 1867.—As the shaft is rotated the right and left worms rotate the spur wheels, and these rotate the right and left screws, which simultaneously advance or recede the platens.

*Claim.*—The hereinbefore described arrangement of a double-platen power press consisting of the double screws upon the rods A, the double endless screws D D<sup>1</sup>, spurs B, plateaus C C, and plates F F, forming bearings for the endless screw D, supported by shoulders upon the rod A, which pass through them, substantially as described.

**68,569.**—JOHN D. MILLER, Russellville, Pa.—*Hitching Strap.*—September 3, 1867.—A part of the strap is of elastic material so as to yield when a horse pulls back, thus avoiding the breaking of the strap.

*Claim.*—As an article of manufacture, a halter or hitching strap composed partly of elastic and partly of rigid material, as herein described.

**68,570.**—F. B. MORSE, New Haven, Conn.—*Whiffletree Iron.*—September 3, 1867.—The lower plate is fitted to the cross-bar and has a hole for the bolt, the other plate is fitted to the whiffletree; the parts being placed together the tree is turned half round, causing the lip of one to catch in the dovetail groove of the other.

*Claim.*—The herein described whiffletree iron as an article of manufacture.

**68,571.**—WILLIAM B. POLLOCK, Holyoke, Mass.—*Paper Ruling Machine.*—September 3, 1867.—The clamp that confines the pens is divided in two parts having independent lateral adjustments that may be actuated without removing the clamp from its bearing. The pens are separately attached and are graduated by the pendant lever to which they are attached



by pivoted rods. The adjustable counterpoise attached to the clamp regulates the pressure of the pens on the paper.

*Claim.*—First, the combination of the middle bearing *h*, end bearings *n n*, and rod *e* with the strip *A*, substantially as described.

Second, the simple clamp *B* or *C*, constructed as described, with the projection *D*<sup>1</sup>, in combination with the nut *g* bearing *n* rod *e* and its register wheel *d*.

Third, the clamp for using detached pens when constructed and operating substantially as described.

Fourth, the combination of two simple clamps, or of two clamps for using detached pens, or of one clamp of each kind, with the strip *A*, the whole and each part thereof constructed and operating substantially as described.

Fifth, the use, in a paper ruling machine, of two clamps or series of pens, each clamp or series having an independent lateral adjustment in combination with a supporting strip.

**68,572.**—PARKER C. PORTER, Augusta, Me., assignor to himself and R. M. MANSUR, same place.—*Carriage Jack*.—September 3, 1867.—The bar has ratchet notches to engage the axle and a pivoted leg to act as a stay.

*Claim.*—The notched or stepped bar or lever, in combination with the pivoted leg or pendant, constructed and operating in the manner and for the purpose set forth.

**68,573.**—AMBROSE POWELL, Coxsackie, N. Y.—*Washing Machine*.—September 3, 1867.—The sides of the suds box have vertical ribs. The dasher has deep horizontal grooves, and widens downward. It is hung to the box ends, and has vertical mortises to receive the bifurcate end of the operating lever.

*Claim.*—First, the combination of the vertical ribs *C* and the dasher, constructed of the pieces *e*<sup>1</sup> *e*<sup>2</sup> *e*<sup>3</sup> *e*<sup>4</sup>, substantially as described.

Second, in combination with the above, the detachable handle *G*, constructed with forked end straddling the piece *e*<sup>1</sup> of the dasher, substantially as described.

**68,574.**—C. C. REYNOLDS, New York, N. Y.—*Threshing Machine*.—September 3, 1867.—The teeth of the concave are fastened to shafts that are secured to the concave and adjusted by hand cranks.

*Claim.*—Hanging the teeth to the concave of grain-threshing and other machines, that they can be swung in and out of position, substantially as described.

**68,575.**—JOHN R. RICHARDSON, Newcastle, Pa.—*Frame Fastener*.—September 3, 1867.—The hooks are coupled by the catch on the pivoted tongue engaging in one of the slots in the supplementary adjustable hook.

*Claim.*—The bar *B* with its groove and opening *D*, and with its ears *e e*, between which is pivoted the tongue *C*, constructed as described, for securing the slotted bar *A*, in the manner and for the purposes specified.

**68,576.**—WARREN ROWELL, New York, N. Y., assignor to the METROPOLITAN WASHING MACHINE CO., Middlefield, Conn.—*Clothes Wringer*.—September 3, 1867.—Improvement on patent of James N. Pease, May 15, 1866. Explained by the claims and illustration.

*Claim.*—First, in the gearing of the clothes-wringing machines having two or more sets of teeth arranged to present the teeth of one set opposite the spaces in the other set, on the same shaft, as herein specified, reducing the number of the teeth and increasing the pitch thereof, substantially in the proportion and so as to accomplish the purposes herein set forth.

Second, the manufacture of step gear, cast in pairs, the formation of a connection or support between the teeth to strengthen them, substantially as herein set forth.

Third, a ring *D*, between the gears *A B*, arranged substantially as described so as to prevent them from meshing deeper than is desired, as herein set forth.

Fourth, in the manufacture of step gears, when cast double, so constructing the ring *D* by casting it in one with the gears, that it shall at the same time strongly support the teeth and prevent the gears from working deeper than desired at the nearest approach

of the rolls, all substantially as and for the purpose herein set forth.

Fifth, beveling the faces *d*<sup>1</sup> *d*<sup>2</sup> of the ring *D*, and the corresponding faces of the teeth which come in contact therewith, substantially as and for the purposes herein set forth.

**68,577.**—C. H. RUDD and GEORGE W. SHAWK, Cleveland, Ohio.—*Electro Magnetic Pumps*.—September 3, 1867.—A pair of helices are constructed with insulated coiled wire upon spools and insulated core magnets, and connected to the battery by negative and positive poles and conductors. A pair of these helices are placed at each end of the table and work armatures attached to the piston rod of a pump that is placed between them.

*Claim.*—First, the magnets *A A*<sup>1</sup>, as arranged in combination with the armature *J J*<sup>1</sup>, piston *P*, and rods *a e*, in the manner and for the purpose substantially as set forth.

Second, the application of the electro-magnetic apparatus to the pump, when constructed and arranged to operate conjointly, as and for the purpose substantially as specified.

**68,578.**—GEORGE C. SMITH and BOSWELL S. JUDSON, Matteawan, N. Y.—*Spring*.—September 3, 1867.—The metallic plate has a sectional wooden cover, and between the ends of the wooden pieces are interposed blocks of rubber to act as springs. The blocks are covered by metallic keepers.

*Claim.*—The wooden plates *B B*<sup>1</sup>, the rubber plugs *C C*, and the metallic springs *A A*, connected and used substantially as and for the purpose set forth.

**68,579.**—JAMES L. SMITH, Tuscola, Ill.—*Car Brake*.—September 3, 1867.—The ratchet wheel on the crown of the shaft is operated by the hinged lever which has its axis of rotation on the said shaft. The position of the shaft is secured by the usual dog, and the oscillating lever is detached by lifting it out of engagement with the teeth of the crown ratchet.

*Claim.*—The arrangement of the wheel *C*, with its shoulders *x x*, lever *D*, hinged as shown, and with its shoulder *z*, in combination with the brake shaft *F*, dog *H*, and ratchet *G*, in the manner and for the purposes specified.

**68,580.**—A. M. SOUTHARD, Savannah, Mo., assignor to himself and W. J. HOBSON.—*Stone Drilling Machine*.—September 3, 1867.—The series of drill rods are adjustable vertically on the frame and are operated consecutively by levers on a rotating horizontal shaft.

*Claim.*—First, the arrangement of the shaft *F* and its pinions and lever *P*, with the plates *G* and *G*<sup>1</sup>, and their shaft *H*, arms *o o*, and gear wheels *I* and *J*, as and for the purpose herein specified.

Second, the disks *N N*, constructed as described, and used in combination with the bars *L L*, shaft *F*, plates *G G*<sup>1</sup>, shaft *H*, arms *o o*, and gear wheels *I* and *J*, the whole arranged and operating as specified.

Third, The arrangement of the bars *L L* in and with the adjustable eyes *e e*, as and for the purpose set forth.

**68,581.**—GEORGE L. SQUIER, Buffalo, N. Y.—*Harvester Pitman*.—September 3, 1867.—The conical wrist pins are drawn tightly into the sockets by rubber washers beneath the nuts.

*Claim.*—The connecting rod *A*, provided with a conical wrist pin *A*<sup>1</sup>, in combination with a compensating rubber, or spiral spring *C*, and screw nut *d*, for the purpose and substantially as described.

**68,582.**—WILLIAM H. TATE, Orleans, Ind.—*Medical Compound*.—September 3, 1867.—For treatment of fever and ague. Strong decoction of burdock burs, 6 qts.; spirits of lavender, 1 oz.; and alcohol, 1 qt.

*Claim.*—A medicine composed of the extract of arctium burs, combined with the spirits of lavender and alcohol, substantially as herein specified.

**68,583.**—THOMAS G. THOMPSON and BARCLAY BALLARD, Richmond, Ind.—*Loom*.—September 3, 1867.—The lathe is supported on oscillating arms pivoted in brackets on the lower frame bars. The warp roller has a spur wheel engaged by the let-off lever,



which is held under a detent in front of the loom. The cloth roller is turned by a pawl upon the take-up lever, which engages a ratchet wheel upon it. A catch pawl prevents back rotation.

*Claim.*—First, the brackets K K, in combination with the bottom ports F F, pivots j, and the side rails A A, all constructed and arranged as herein described.

Second, the combination of the warp beam L, spur wheel J, pivoted let-off lever I, rack i, stop T, cloth ream D, ratchet wheel d, take-up lever H, and pawls 5 and 6, when constructed, arranged, and operating as and for the purposes herein set forth and described.

**68,584.**—ALFRED WEED, Boston, Mass.—*File.*—September 3, 1867.—The teeth cut in but one direction and the file is formed to fit in the jaws of the handle, where it is secured by a set screw.

*Claim.*—As a new article of manufacture, a file, when made substantially as described.

**68,585.**—ALFRED WEED, Boston, Mass.—*File Handle.*—September 3, 1867.—Projections on the jaws fit into recesses in the tool, to which they are tightly clamped by a set screw.

*Claim.*—A tool holding handle as made with jaws arranged to have an adjustment with respect to each other, one or both of which are provided with a transverse rib or ribs and a longitudinal groove or grooves, constructed substantially as described.

**68,586.**—C. E. WILCOX, Milwaukee, Wis.—*Billiard Table Cushion*—September 3, 1867.—The steel spring is inserted in the rubber and a slot is cut near the rear side of the rubber to steady the action and make the rebound more effective.

*Claim.*—A billiard table cushion, when made with slot C in its top, substantially as and for the purpose described.

**68,587.**—MILO WEBB, Chenango Forks, N. Y.—*Hay Rake and Loader.*—September 3, 1867.—The swathers and rakes gather the hay and the teeth on the endless band raise it and discharge it into the wagon. The band is driven by gearing and belts and the hay is detached from the curved teeth of the elevator by means of clearing fingers, the conducting fingers giving it a direction toward the wagon bed.

*Claim.*—First, the arrangement of pulleys M O Q R S T, endless cords U, and rakes V W, in the described combination with the clearing finger or rake 7, as set forth.

Second, the combination of the endless series of rakes W, the guards or directors 1, and conducting fingers 8, all constructed and arranged substantially as and for the purpose set forth.

Third, the combination with an endless series of rakes of the rocking beam Y, for enabling the bottom rake to skim without tearing up the ground, in the manner set forth.

Fourth, the adjustable bracketed bearings Z, in combination with the rocking beam Y, for the purpose explained.

Fifth, the combination of the pulley Q, and carrier X, with the endless rakes to tighten them, as described.

**68,588.**—SAMUEL DARLING, Bangor, Me.—*Ink-stand.*—September 3, 1867.—The top has a central, downward depression, with a hole admitting the pen to a certain depth, as an ink gauge. A soft-metal nut is cemented inside the glass vessel at its top.

*Claim.*—An ink reservoir, having a central recess or depression, in combination with a follower, having a gauge cup projecting so much below the body of the follower as to admit of being inserted sufficiently into the ink while the body of the follower is always above the ink.

Also, the rib K, as arranged in cavity D, in combination with the cover C, substantially as and for the purposes described.

Also, the opaque belt or band on the interior of the reservoir, in combination with the plaster of Paris or its equivalent, as and for the purposes specified.

**68,589.**—JAMES ALBEE, Boston, Mass.—*Hot Air Furnace.*—September 10, 1867.—The calorific current passes down from the corrugated, hemispherical crown through outer flues to the base, and from thence

along a horizontal passage to the exit flue. The diving flues are formed by the fire lining and the corrugations of the outer shell.

*Claim.*—Arranging the lining or fire-pot in relation to the corrugations of the casing, in such a manner that the descending draft flues C C' C'', &c., are formed, substantially in the manner and for the purpose set forth.

**68,590.**—M. ANTON, Huntington, N. Y., assignor to himself and C. F. VON DER LÜHE, same place.—*Coating and Waterproofing Whips.*—September 10, 1867.—A composition as follows is rubbed into the meshes of the whipstock cover: Doubly boiled linseed oil and coloring matter (as yellow ochre) in equal proportions.

*Claim.*—The process or method of rendering waterproof whips by coating or covering the same with a suitable composition or compositions, substantially such as herein set forth and in the manner herein specified.

**68,591.**—A. D. ATWOOD, Saybrook, Ill.—*Sheep Chair.*—September 10, 1867.—The seat is rotatable on the stand. The backs have sliding curved arms and are sustained by springs. The fleece table may be folded when disused.

*Claim.*—First, the revolving seat C, in combination with the flexible back F or G, substantially as and for the purpose set forth.

Second, the fleece tables D, in combination with the seat C, and backs F G, substantially as described.

Third, the movable ribs M M, in combination with the back bar F or G, substantially as set forth and described.

Fourth, the spring J, and back F, in combination with the seat of a sheep chair.

Fifth, a sheep chair constructed with the pedestal A, crosshead B, seat C, and table plate N, fitted to each other, substantially in the manner shown, so that the whole may be taken apart without the removal of any fastening.

Sixth, the fleece table D, constructed as described, so that by the removal of the rim wire said table may be folded like a fan.

**68,592.**—J. A. AYRES, Hartford, Conn., assignor to NATIONAL SCREW COMPANY, same place.—*Device for Nicking Screws.*—September 10, 1867.—Explained by the claim.

*Claim.*—The use of two or more saws situated in different planes and operating successively upon the heads of screws or screw blanks to form a dovetailed nick or slot, substantially as set forth.

**68,593.**—RICHARD T. BARTON, New Haven, Conn., assignor to himself and WILLIAM H. FISK, West Meriden, Conn.—*Machine for Making Needles.*—September 10, 1867.—The wire is automatically fed from the roll and cut to length. The blank is received upon a groove of the bed piece and moved forward by the rack, which is raised up by the cams to lift the blank from the groove. When the blank reaches the next groove the rack drops back. When the blanks are deposited in the grooves the rotating cutters are advanced by the lever and sharpen the point. The eye is then recessed and punched, after which the head is trimmed and the needle thrown off.

*Claim.*—First, the combination of the cams C1 C2 C3 C4 C5 C6 C7 C8 C9, and the levers L2 L3 L4 L5, N N E T and U, the feeding mechanism F, the cutter H, the feeding rack M, the bar K, the sharpening tools Q Q1, the punch V, the shearing press X, and the milling tool Y, all constructed and arranged substantially as specified, the whole forming a machine for making needles, as herein set forth.

Second, the sharpening tool Q Q1, constructed substantially as herein described.

**68,594.**—AUGUSTUS BEALE, Stamford, Conn.—*Carriage Wheel.*—September 10, 1867.—The spokes have screw sleeves at their outer ends with pins which pass through the felloes. The shoulders of the sleeves may be set ont to the rim by turning the former.

*Claim.*—In combination with a spoke and felloe of the wheel of a vehicle, the socket D, and screw cap C, when both parts are constructed, arranged, and operating in substantially the manner herein specified.



**68,595.**—DANA BICKFORD, Boston, Mass.—*Knitting Machine*.—September 10, 1867.—The rotating cylinder carries a pivoted cam which works the needles. This cam is adjustably secured by a set screw to vary the length of stitch, and has an index finger to denote said adjustment.

*Claim.*—First, the combination of the pivoted cam G, indicator D, and set screw C, as and for the purposes set forth.

Second, the clasp E, in combination with the cylinder A, as and for the purposes set forth.

**68,596.**—LAFAYETTE BLAIR, Painesville, Ohio.—*Carriage Axle and Hub*.—September 10, 1867.—The spindle rotates in bearings within a tube which connects with another tube to form the carriage axle. An annular chamber is left between the spindle and tube, to hold oil. A wooden hub is clamped between a fixed and removable disk on the outer end of the spindle.

*Claim.*—First, enclosing within a hollow tube H an elongated spindle constructed as shown in Fig. 5, and secured therein by the nut I, the said tube H being provided with bearings *h h'*, annular flanges *a b*, notch *g*, lubricating holes *e d*, and the said nut I with the broad annular flange *I'* and screw hole *d'*, all operating as and for the purposes set forth.

Second, the hollow tube J, provided with the sleeve K, screw hole *i*, and plug L, in combination and operating in connection with the subject of claim first, substantially as and for the purpose stated.

Third, the arrangement of the annular rim G of disk D, and annular flanges *a b* of tube H, whereby an annular recess *k* is inclosed for the purpose of allowing water or dirt to escape through the hole *g*, substantially as herein set forth.

**68,597.**—NICHOLAS H. BORGFELDT, New York, N. Y.—*Apparatus for Breaking the Stems and Leaves of Tobacco*.—September 10, 1867. Two rollers have circumferential, serrated ribs, each entering the groove in the fellow roller. The grooves are cleared by scrapers. The material is placed in the hopper and run between the rollers.

*Claim.*—The scalloped, sharp-edged, circular ribs *b b'*, on the rollers C C', in combination with the comb-shaped scrapers D D', substantially as and for the purpose set forth.

**68,598.**—JOHN F. BOYNTON, Syracuse, N. Y.—*Steam Generator*.—September 10, 1867; antedated July 19, 1867.—The steam passes to the heater from the steam space of the generator and the resulting water of condensation is conducted to either the feed pipe or to the water space near the generator bottom. The feed water passes from the heater to a pipe traversing the generator near its bottom. The pipe passes longitudinally backward and forward to near the top of the generator, where it discharges by perforations into the steam space.

*Claim.*—First, the perforated tube B, within the boiler, or its equivalent, for equalizing the temperature of the steam in the boiler, as described.

Second, in combination with a steam boiler, the automatic heater and feeder, when constructed, arranged and operating substantially as described.

Third, in combination with a steam boiler, a double registering thermometer, to indicate the temperature and thereby show the pressure of the steam in the boiler, substantially as described.

Fourth, in combination with a steam boiler, a thermometer of metal, suspended in the boiler, as shown at T', in the drawing, and mounted with a glass tube to exhibit the column of mercury, as described.

**68,599.**—THOMAS BROWN, Roseburg, Oregon.—*Washing Machine*.—September 10, 1867.—The beater is pivoted to a hinged frame and is oscillated by a cross-bar at its upper end. The suds box bottom and lower side of the beater have inwardly presenting ratchet-formed ribs.

*Claim.*—The combination of the frame B, jointed at *d*, with the beater C, and ribs inclined towards the center, and the rubbers at the bottom of the tub, also similarly inclined, all arranged and operating substantially as and for the purposes herein described.

**68,600.**—EDWARD E. BURNHAM and GEORGE BROWN, Gloucester, Mass.—*Preventing a Horse from*

*Running Away with a Carriage*.—September 10, 1867.—The reins are attached to an elastic band which is passed through the rear wheel and connected to the body. The back rotation of the wheel is prevented by its connection to the body by a strap.

*Claim.*—The employment or combination of the elastic band or connection with the carriage wheel and the reins of the harness, under circumstances and for the purpose specified.

Also, the application of the elastic band or connection to the carriage body, the wheel and the driving rein or reins, substantially in manner as specified.

Also, the combination of the safety strap E with the band D, applied to or to be applied to the carriage wheel and rein or reins of the harness as specified.

**68,601.**—GEORGE E. BURT and EDWIN A. HILDRETH, Harvard, Mass.—*Car Brake for Stopping and Starting Cars*.—September 10, 1867.—For stopping, the longitudinal lever is swung around, which connects its ratchet with a pin projecting radially from the axle. This operates to wind up the spring and store the momentum of the car, to be used in starting, by contrary motion of the lever, which brings the opposite ratchet and pawl into action; the power thus conserved is expended in propelling the car.

*Claim.*—First, the spring case *a a'* constructed in such a manner with pins *p p'* and supporting flanges, that the spring may be wound in either direction, substantially as described.

Second, the extension *c'* upon the disk *a* fitted into the case *a* on the axle, as described and for the purpose set forth.

Third, the double case *a a'*, constructed as described and arranged to slide upon the axle and catch in stops *d d*, substantially as described and for the purpose set forth.

Fourth, the lever B, with secondary lever P, in combination with the case *a a'* in operating the same.

Fifth, in combination with lever B, and case *a a'*, the pawls *e e'*, springs *f f'*, and stops *g g'*, constructed and arranged substantially as described and for the purposes set forth.

Sixth, the construction of a car brake with mechanism substantially as described and so arranged that the friction of the wheel on the brake pad H shall tend to draw on the brakes and clamp the wheel between the brakes G and H, substantially as and for the purpose set forth.

Seventh, in combination with the above, the operating devices consisting of the lever C, shaft E, arms *j j*, lever *l*, and treadles *y y*, substantially as described.

**68,602.**—LUMAN CARPENTER, Oswego, N. Y.—*Rotary Steam Engine*.—September 10, 1867.—When the crank rotates, the outer surface of the piston comes in contact with the inner surface of the cylinder. The ends of the wings of the piston slide on the plate towards the crank, letting the steam into the space between the piston and the point where the piston comes in contact with the inner surface of the cylinder. As the crank rotates, part of the outer surface of the piston is constantly in contact with the inner surface of the cylinder until it moves round to the starting point. As the crank commences its second revolution the sliding wings open the exhaust pipe and let the steam escape; thus the pressure of steam on the piston causes a continuous rotary motion of the crank.

*Claim.*—The combination of the piston P with the plate G, crank C, and cylinder H, so as to produce a rotary motion, substantially as herein set forth.

**68,603.**—SAMUEL N. CHAPIN and AUGUSTUS STANLEY, New Britain, Conn.—*Adjusting Spirit Level*.—September 10, 1867.—The glasses are adjusted in rubber bedding by the set screws by which they are attached.

*Claim.*—First, a bed of vulcanized rubber M, or equivalent elastic material, arranged relatively to the adjusting screw *c* and to the adjustable leveling device B or D, substantially as and for the purpose herein specified.

Second, constructing the case E, which carries the short glass D, with a part E', or its equivalent, standing at right angles to the glass D, in combination with means for adjusting the same, operated at the



edge of the body A, substantially as and for the purpose herein specified.

**68,604.**—SAMUEL F. CLARK, Middletown, Conn.—*Safety Stirrup*.—September 10, 1867.—The bars in front of the stirrup prevent the toes projecting too far, and the pivoted sole allows its adjustment to the position of the foot.

*Claim.*—First, the combination of the bars *a* with the horizontal band *d*, and the upright part *e*, substantially as described.

Second, the combination of the pivoted sole *b* with the band *d* and sides *c*, substantially as described.

Third, the combination of the bars *a*, the band *d*, the sole *b*, and the upright sides *c*, the whole forming a safety stirrup, substantially as herein described.

**68,605.**—DANIEL WEBSTER CLEGG, San Francisco, Cal.—*Counting House Ruler*.—September 10, 1867.—The ruler has rectangular slots used to indicate places for the vertical, ruled lines.

*Claim.*—A ruler A having a concave bottom with graduated holes or openings B B, substantially as specified and for the purposes set forth.

**68,606.**—SAMUEL M. COOPER, Fairfax county, Va.—*Apparatus for Stopping Runaway Horses*.—September 10, 1867.—The hobbles encircle the horse's hind legs above the hough; it is tightened and drawn back by the pivoted lever, a dog from which, engaging in the rack beneath, holds it in position.

*Claim.*—The binding of the legs of the horses by the means of the above invention and the application of straps in combination with chairs and levers, operating substantially as and for the purpose set forth.

**68,607.**—CHARLES W. COTTON and EDMOND L. STAPLES, Cincinnati, Ohio.—*Corn Dropping Attachment to Hoes*.—September 10, 1867.—The sliding receptacle is attached to the hoe handle for a seeder. The gauge in the pocket regulates the discharge.

*Claim.*—First, a seeding attachment to a hoe, consisting of the sliding receptacle or hopper B, pocket D', and brush H, substantially as described and represented.

Second, the combination of the hoe A, receptacle or hopper B, tube D, brush H, pocket D', adjustable gauge I, and spring L, all arranged and operating in the manner and for the purpose specified.

**68,608.**—S. B. COX, Buffalo, N. Y.—*Dinner Pail*.—September 10, 1867.—The pail has arrangements for holding the food and its accessories, and a lamp for heating purposes.

*Claim.*—First, the combination with the cover C and the cup D of the grooved india rubber ring K, the adjustable hinge *j*, and spring catch *k*, substantially as and for the purpose set forth.

Second, the combination with the pail A and cup B of the lugs or projections *e* and *g*, the socket *f*, and spring catch *h*, substantially as herein above set forth.

Third, the combination of the cup D and lamp E, of the fender F, supports G G, and sockets *n n*, substantially as set forth.

Fourth, the combination with the box I of the cover *b*, and spring *c*, substantially as and for the purpose set forth.

**68,609.**—JAMES M. CROCKETT, Newbern, Va.—*Graduating Accelerating Cartridge for Ordnance, &c.*—September 10, 1867; antedated September 1, 1867.—The cartridge has a series of chambers, the powder in which explodes successively so as to cause an accelerating motion in the shot. The small inner chamber contains powder to clear the gun of the cartridge wrapper.

*Claim.*—The construction of the chambered cartridge in separate sections as fitted together at *a b c* and *d*, when arranged and combined as herein described and for the purposes set forth.

**68,610.**—H. L. CURRIER, Oregon, Ill.—*Land Roller*.—September 10, 1867.—The detachable tongue is confined with bands to the frame to which it is bolted. The rear rollers are adjusted and loosely attached to the elongated rear bar of the forward frame.

*Claim.*—First, the combination of the front roller with the independent and loosely hinged hind rollers, arranged and operating as described.

Second, the combination with the front roller of the driver's seat and detachable tongue, all arranged and operating as described.

Third, the arrangement of the series of rollers, one behind the other, as described, for the purpose of successively rolling the same surface by a single passage of the machine.

**68,611.**—EMORY B. CUSHING, Boston, Mass., assignor to himself and ALBERS R. CUSHING, same place.—*Machine for Burnishing the Edges of the Soles of Boots and Shoes*.—September 10, 1867.—The edges of the sole of the eccentrically attached boot are rotated against the burnisher by the action of the treadle.

*Claim.*—First, the standard *k*, and the combination and arrangement of the machinery connected therewith, namely, the treadle *c*, the shafts F *o* and *s*, and their gearing, whereby the hand and foot movements are secured, so that the boot or shoe will follow the burnisher, substantially in the manner and for the purpose above set forth.

Second, the cross head *t*, in combination with the screw *x*, the rest *u*, and the sliding arm *v*, whereby any sized boot or shoe is held, and also whereby the motion following the burnisher is secured substantially in the manner and for the purpose above set forth.

Third, the combination and arrangement of the clutches *f f' f''* with pulleys *g g'*, whereby is secured the change motion of the cross head so that the boot or shoe can turn from one shank to the other, substantially in the manner and for the purpose above set forth.

Fourth, the combination and arrangement of the gauges or guides *e* to the burnishing tool *d*, which do not revolve with the burnishing tools combined and in connection with the cam movements in sliding box *e*, whereby the guides are adjusted to the edges of the soles, substantially as set forth.

Fifth, the combination and arrangement of the cam groove *a* and the bent arm *b*, working in the cam groove in the face of the pulley D, whereby is secured the thrust or hand-like motion, substantially in the manner and for the purpose above set forth.

**68,612.**—R. H. CUTTER, Cleveland, Ohio.—*Bed Bottom*.—September 10, 1867.—The springs are secured by webbing interwoven into their ends, and can be used on both sides for bed or lounge bottoms.

*Claim.*—The above described bed bottom as a new article of manufacture.

**68,613.**—WILLIAM DECING, Louisville, Ky.—*Cotton and Hay Press*.—September 10, 1867; antedated August 26, 1867.—The doors being secured, and the upper platen removed, the box is filled and the platen replaced. The lower platen is raised, compressing the material by the levers that actuate the shaft, around whose fusée barrel the pulley ropes are wound.

*Claim.*—First, the shaft S, with the fusée barrel K, in combination with the rope P, sheaves *e* and *f*, and the lower platen H, arranged and proportioned in the manner and for the purpose described.

Second, the screw terminal S<sup>2</sup>, upon the shaft S, fitted into a female screw within B, in the manner and for the purpose described.

Third, the arrangement of the platens by which, when operating, the upper one is stationary and the lower one movable, in the manner and for the purpose described.

Fourth, the combination of the lever M, with its ratchets and pawls, shaft S, fusée barrel K, screw S<sup>2</sup>, rope P, sheaves *e* and *f*, upper and lower platens and box A, in the manner and for the purpose described.

**68,614.**—C. H. ECCLESTON, Oxford, N. Y.—*Atomizing Tube*.—September 10, 1867.—The liquid and air tubes have each a rectangularly projecting tube, which may be screwed on the cap tube, thus acting interchangeably as the air or liquid tube. A cap, in each case, screws on the unconnected end.

*Claim.*—An atomizing instrument in which the contiguous air and fluid tubes are connected to the vertical or cap tube so as to be reversible with relation thereto, substantially as set forth.

**68,615.**—DANIEL L. EMERSON, Rockford, Ill.—*Harvester*.—September 10, 1867.—The frame droops



behind the axle to permit a position of the platform rear to the ground. The grain wheel is connected to the frame by an arm so arranged as to permit a horizontal rotation of the wheel in order that it may occupy a proper position when the machine is running forward, and assume a position allowing the machine to turn freely when necessary. The rake teeth are adjustable in their sockets by set screws. The finger beam is raised by a lever to pass obstacles. When the finger beam is raised a certain distance the lifting mechanism is locked without catches. The hooked lever is combined with a perforated standard, by which the finger beam is secured to any required position. The foot supports of the driver are adjustable in size.

*Claim.*—First, the drooping harvester frame, hereinbefore described, the droop at the grain wheel being produced by the bend of the bar of the frame and at the driving wheel by the branching of the frame, substantially as above set forth.

Second, the combination of the grain wheel with the frame of the machine by means of an arm, so arranged as to permit the said wheel to turn horizontally a limited distance, substantially as set forth.

Third, the combination with a rake head of the tooth sockets rigidly secured thereto, through which sockets the rake teeth project and move endwise transversely to the rake head and held by pinch screws, as described.

Fourth, the combination of the frame of the harvester and the draft bar thereof by a hinge hooked lifting lever, swinging standard and arm, substantially as set forth.

Fifth, the arrangement of the arm of the draft bar, the hooked lifting lever and swinging fulcrum standard, in such relative positions that the strain upon the lever tends to lock the members in their positions when the finger beam is raised beyond a certain distance.

Sixth, the combination of the frame of the harvester, draft bar, hooked lifting lever, perforated swinging standard, arm and pin, substantially as set forth.

Seventh, the combination of the frame of the machine and driver's seat with adjustable hanging stirrups, substantially as set forth.

**68,616.**—F. M. EVERINGHAM, Collingwood, N. Y.—*Clothes and Picture Hanger.*—September 10, 1867.—The bracket frame is formed of diagonal pieces and slotted uprights and is extensible in the manner of lazy tongs.

*Claim.*—The extension bar A, the hook B, the upright bar C, and the dovetailed slot D, in the upright bar, when the same are constructed, combined, and used in the manner as substantially set forth and described.

**68,617.**—PATRICK J. FLANEDY, San Francisco, Cal.—*Ironing Machine.*—September 10, 1867.—Above the polishing wheel is suspended a horizontal frame to which the polishing iron is connected. The iron slides back and forth on cross pins and is actuated by a spiral spring attached to a foot bar that is connected to an upright bar by which it is suspended.

*Claim.*—In combination with the lever frame I, the cross head K, the ways J J, straps K<sup>1</sup> K<sup>2</sup>, and frame L, substantially as and for the purposes described.

Also, the lever M, in combination with the slotted arm N, shaft O, pedal d, and spring c, substantially as and for the purposes set forth.

**68,618.**—BENJAMIN S. FLETCHER, Cornish, N. H., assignor to himself and DAVID W. RAWSON.—*Rein Holder.*—September 10, 1867.—A single serrated jaw folds in between two serrated ribs. The jaw has a projection entering a cam groove by which it is moved.

*Claim.*—The combination of the plate A with its serrated ridges e e and the lever D with the revolving cam C, either surrounding a hub B or inclosed within a case B as set forth, and arranged and operating substantially as and for the purpose set forth.

**68,619.**—JOHN FOREMAN, Pottstown, Pa.—*Railway Car.*—September 10, 1867.—The frames of the car sides have diagonal stay rods.

*Claim.*—The combination described of the diagonal tie bolts e e and f with the longitudinal beams,

posts, and diagonal braces of the body of a car, for the purpose specified.

**68,620.**—HENRY C. FREEMAN, South Pass, Ill.—*Box for Transporting Strawberries.*—September 10, 1867; antedated August 27, 1867.—One side of the drawer is hinged and is held up by spring catches. The shorter divisions are parallel with the hinged side and are removable.

*Claim.*—First, the subdivisions of the drawer, as formed and described in the specification.

Second, the mode of opening each subdivision by a movable slide b.

Third, the gate, as formed and described in the specification, also the mode of securing it by a spring catch d.

Fourth, the whole in combination as above described and claimed in its parts.

**68,621.**—S. C. and E. O. FRINK, Indianapolis, Ind.—*Wood Bending Machine.*—September 10, 1867.—The end of the handle is clamped to the strap and bent over the "former," the segments binding the wood and preventing slivering. A hook rod keeps the parts in position.

*Claim.*—First, the bed plate P and former U U, when constructed as set forth.

Second, the pin g, the eccentric R, shoe N, and clamp x d W, when used for taking up the slack of the spine.

Third, the base piece E, the back plate k, the clamp x d W, in combination with the strap L, substantially as described and set forth.

Fourth, the segments Y Z, when constructed as described in combination with the strap L, substantially as set forth.

Fifth, the shoe N and clamp a, in combination with the rod b, substantially as set forth and described when used to hold the material in a bent position.

**68,622.**—H. R. GILLINGHAM, Baltimore, Md., assignor to himself, CHRISTOPHER R. GILLINGHAM, and AMBROSE L. HUGGINS, same place.—*Door Lock.*—September 10, 1867.—The vertical tumblers are operated by the key through the spring levers to enable the moving of the bolt. A spring having a pin entering an aperture in the bolt is moved back by a projection of the key when operating the bolt.

*Claim.*—The combination and arrangement of the vertical sliding tumblers P P, operated by the spring levers L L, pivoted between the side bolt plates G and H, the latter being held and secured by the spring pin D in both the locked and unlocked position of the bolt, substantially in the manner herein shown and described.

**68,623.**—DAVID HALE, Boston, Mass.—*Driving Bit.*—September 10, 1867.—The rod is covered with a removable tube of rubber. One bit ring is secured by the head of a removable screw.

*Claim.*—A driving bit having a bar covered with a removable tube of rubber or rubber compound, the bar being provided with a screw cap which permits application or removal of the tube, substantially as set forth.

**68,624.**—JOSEPH HALE, Somerville, Mass.—*Washer.*—September 10, 1867.—The strip of wood is bent into a helix, and, being divided obliquely, the sections form annular washers.

*Claim.*—For employment with wheels and axles, or similarly, washers of wood with the grain, substantially as described, when formed by softening, bending, and drying.

Also, the process described for forming washers of wood by bending a strip into a helix and then subdividing it, substantially as described.

**68,625.**—JAMES M. HAWLEY, Holton, Ind.—*Belt Tightener.*—September 10, 1867.—The sliding rollers are drawn together to tighten the belt.

*Claim.*—A belt tightener, consisting of the sliding rollers C C, roller frames B, windlass D, and cords or chains g g applied to a frame A, and operating substantially as described.

**68,626.**—JOHN HIGHBARGER, Sharpsburg, Md.—*Washing Machine.*—September 10, 1867.—The inner surface of the tub is covered by corrugated plates.



The pivoted rocker is balanced by weighted cords running over anti-friction pulleys, and has a seat above for a child to sit and work the machine. Corrugated ribs are secured transversely to the bottom of the rocker, and rollers work in the lower corners.

*Claim.*—First, the rocker B, having the side pieces B' B', slats *b b*, rollers R R, and seat S, in combination with the corrugated wash chamber A, substantially as and for the purpose specified.

Second, the combination of the rocker B with the cords C, weights W, and pulleys P P, substantially as and for the purpose specified.

**68,627.**—RICHARD HOFFMANN, New York, N. Y.—*Rocking Chair.*—September 10, 1867.—The flexible metallic side pieces are united by cross-bars that are removable to facilitate packing. The cushion and the hanging back are fastened to the rods.

*Claim.*—First, constructing the side frames of a rocking chair of elastic strips *b b' c c'*, substantially as and for the purposes set forth.

Second, the combination of removable cross-bars *a a<sup>1</sup> a<sup>2</sup>* with the elastic side pieces B C of a rocking chair, substantially as and for the purpose described.

Third, the flexible back E, in combination with the seat D, top cross-bar *a'*, and side pieces B C, constructed and operating substantially as and for the purpose set forth.

Fourth, the yielding stops *e*, in combination with the runners of a rocking chair, constructed and operating substantially as and for the purpose described.

**68,628.**—AZARIAH HUTCHINSON, Monterey, Ohio.—*Stove-pipe Thimble.*—September 10, 1867.—The ring is supported by hooks from the joists and supports the thimble, which receives the stove-pipe.

*Claim.*—A fire-proof base for stove flues, consisting of a bed plate A, having a central aperture B and radial arms C D E *e*, &c., when used in connection with the cylinder H h H', for the reception of a stove-pipe, the whole being arranged and operating substantially as herein explained and for the purpose set forth.

**68,629.**—THOMAS LEWIS, Malden, Mass.—*Syringe.*—September 10, 1867.—The perforated disk is screwed into the socket above the valve to prevent the latter falling out when the pieces are detached.

*Claim.*—The removable perforated disk *c* with the male screw thread on its outer edge, adjusted to fit the female screw thread *b*, substantially as described and for the purpose set forth.

**68,630.**—EDWARD J. LEYBURN, Lexington, Va.—*Cupping Instrument.*—September 10, 1867.—The glass has at the mouth an adjustable, perforated plate to irritate the skin without puncturing it.

*Claim.*—First, the application to a cupping glass of a spurred disk E, substantially as described.

Second, the use of an adjustable device for irritating the skin, in combination with a cupping glass, substantially as described.

Third, an irritator E, constructed substantially as described and adapted for use in a cupping glass, substantially as described.

**68,631.**—GEORGE L. LOVERIDGE, Bury Bank Cottages, England.—*Tanning.*—September 10, 1867.—After liming, fleshing, and unhairing, the hides are placed in a solution of catechu and pearlsh, and afterwards successively in stronger solutions of the same, with frequent handling.

*Claim.*—Subjecting hides to the action of the within-described ingredients, in the manner set forth.

**68,632.**—WILLIAM S. LYON, Tranquility, Ohio.—*Medical Compound.*—September 10, 1867.—For the cure of felons, piles, &c. Composed of gum ammoniac, 4 parts; English rosin, 4; beeswax, 4; Venice turpentine, 4; hog's lard, 4; gum myrrh, 1; made into an ointment.

*Claim.*—The combination of the above-mentioned ingredients, substantially as described.

**68,633.**—JOSEPH MAGOUN, East Cambridge, Mass.—*Mold for Making Glass Goblets, Glasses, &c.*—September 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the separate body

matrix L, (in one piece as described,) and its holding mechanism, or the equivalent thereof, with the series of stem mold sections G G G, arranged together and applied to the supporting frame, so as to be movable in radial directions, as specified.

Second, the combination and arrangement of the foot mold or matrix B, with the separate body matrix L, (in one piece as described,) and the stem mold sections G G G, arranged so as to be movable in radial directions, as specified.

Third, the foot mold or matrix B, as made in one piece without any vertical joint, when arranged and combined with a series of stem mold sections G to open apart over the said foot mold, as specified.

Fourth, the combination for holding the body matrix L down to the mold sections directly underneath it, such combination consisting of the annular clamp T and its projections *o p*, the stationary recessed posts *q* and the cams *m*, such posts being supported by the platform U, and the cams being applied to the body matrix, as specified.

Fifth, the combination and arrangement of the cammed annulus *c* with the mold frame, the series of stemmed sections G G G, the body matrix L and its holding mechanism, substantially as described.

Sixth, the combination of the lower plunger C and its supporting foot D, with the raising plate or device E, so as to render the latter capable of being revolved independently of the said plunger and foot, as explained.

Seventh, the combination of the edge forming annulus or cap M, with the body matrix L and its holding mechanism, whether the latter be applied directly to the matrix, or to the said annulus placed on the said matrix.

Eighth, the combination of the finger *y* and notched projection Z, with the mold frame and the body matrix L, when the latter is combined and arranged with a series of stem mold sections G G G to operate or move in radial directions, as described.

**68,634.**—J. M. MARCH, Washington, D. C.—*Baggage Label.*—September 10, 1867.—The label is enclosed by a glass plate, and is reached from the inside.

*Claim.*—Securing the label of baggage or freight cars, trunks, or other baggage parcels, which can be shifted only by the proper person, when applied to baggage or freight cars, and from the inside, when applied to trunks and other baggage parcels.

**68,635.**—THOMAS MARCH, Dallas, Mich.—*Plow.*—September 10, 1867.—The mold board and landside are of cast iron, and have edge ribs, between which are let in plates of steel, so as to cover nearly the whole surface.

*Claim.*—The method herein described of constructing the mold board and landside of a plow, substantially as described.

**68,636.**—WM. C. MARSHALL, New York, N. Y.—*Operating Window Shutters.*—September 10, 1867.—The open-holding catches of the shutters are self-attaching, and are detachable by a tappet rod inside the wall, which operates the catches simultaneously on different stories.

*Claim.*—The pivoted latches D, extending through the wall, one end operated by the tappet rod E, the other end holding the self-closing shutter C, substantially as shown and described.

**68,637.**—AUGUSTUS H. MASON, Binghamton, N. Y.—*Baby Jumper.*—September 10, 1867.—The rotary standard has a horizontal arm, at whose end is a depending cord supporting a hoop and harness to sustain a child.

*Claim.*—The combination of the standard B and arm E, with the sockets C C and D, the swivel F, hoop O, saddle H and waistcoat I, all constructed substantially as described for the purpose set forth.

**68,638.**—SAMUEL MCCRAY, Woodstock, Ill.—*Post Hole Auger.*—September 10, 1867.—Explained by the claim and illustration.

*Claim.*—The shaping the cross plate so as to receive the wings in a position inclining about 11° from a right angle to the rod, also the projections upon the forward outer points of the wings.



**68,639.**—Mrs. D. H. MCGREGORY, Detroit, Mich.—*Making Butter*.—September 10, 1867.—A pint of milk and two eggs are beaten up with a pound of butter to make two pounds of a compound resembling butter.

*Claim.*—The herein described way of making butter by the employment of the materials above specified, producing thereby a new article of manufacture.

**68,640.**—LOUIS MENDEL, Albany N. Y.—*Safety Attachment for Watch Chains*.—September 10, 1864.—The spring hook has a point to prevent the hasty removal of the watch from the pocket.

*Claim.*—A projecting point or pin applied to a watch chain as a safety attachment, in the manner described and for the purposes herein set forth.

**68,641.**—CHARLES F. W. MEYER, Oconomowoc, Wis.—*Leather Hose*.—September 10, 1867.—The strip of leather is folded and stitched through at one edge and near the other, leaving a flap of the latter which is brought around over the seam and stitched to the side of the pipe.

*Claim.*—Uniting the pieces constituting a leathern hose pipe, by a lapped seam sewed with leather thongs, in the manner herein described.

**68,642.**—W. K. MILLER, Canton, Ohio, assignor to C. AULTMAN & Co., same place.—*Harvester*.—September 10, 1867.—The bail is elevated to catch and momentarily detain the falling grain, to keep it separate from that which is to be slipped off the platform on to the ground. At other times the bail lies on the platform and starts the gavel as it rises.

*Claim.*—In combination with the grain table or platform, the bail I, working in connection therewith, for the purpose and in the manner substantially as herein set forth and described.

**68,643.**—GILPIN MOORE, Moline, Ill., assignor to JOHN DEERE, C. H. DEERE, S. H. VELIE, and G. W. VINTON, same place.—*Cultivator*.—September 10, 1867.—The tongue and hounds are attached to a cross-bar, which gives bearing to plates having spindles for the wheels, and slots for adjustable attachment to blocks to which the beams are pivoted.

*Claim.*—First, the axles B, constructed substantially as herein shown and described, for the attachment of the plows and wheels of a cultivator, as set forth.

Second, the double-acting elevis or device for attaching the plows to the axle, said device consisting of the plates *n c* and *m*, and bolt *o*, all constructed and arranged to operate substantially as described.

Third, the plate *h*, when constructed and used in connection with the standard G and brace *d*, substantially as described.

Fourth, the cultivator, having its several parts constructed and arranged for joint operation, substantially in the manner and for the purpose herein set forth.

**68,644.**—JAMES A. MORRELL, Chicago, Ill.—*Hinge*.—September 10, 1867; antedated August 26, 1867.—One wing of the hinge is held by a strap and has adjustment by an eccentric at its outer edge.

*Claim.*—The eccentric B, in combination with the wing of the hinge *m*, substantially as described and for the purpose set forth.

**68,645.**—ROBERT B. NEVENS, Lowell, Mass., assignor to himself and STILLMAN BUSHEE, same place.—*Bed Bottom*.—September 10, 1867.—The longitudinal bearers are supported by hooks hung on the side rails and steadied by knees, that, projecting from the side rails, engage the middle of the bearer. Transverse bars at each end support the elastic slats.

*Claim.*—First, the adjustable sliding stirrups D, or their equivalent, applied to the side rails E, and spring bars A, and arranged for action and effect, substantially in the manner and for the purpose set forth.

Second, in combination with the stirrups D, the knees F, or the equivalent thereof, when applied and arranged substantially as and for the purpose set forth.

Third, in combination with the stirrups D and knees, or equivalent, the spring bars A, applied and arranged in the manner and for the purpose substantially as specified.

Fourth, in combination with the stirrups D, and knees F, and spring bars A, the employment of transverse bars B, and a series of slats C, in the manner and for the purpose set forth.

**68,646.**—B. F. PAINE, Roseville, Ill.—*Running Gear for Vehicles*.—September 10, 1867.—Transverse bars are secured to the wagon bed, and to them are attached boxes in which are pivoted the vertical standards that sustain the axles. The front bar and tongue are pivoted to the bed, and turn with the connecting rods and wheels in rounding a corner.

*Claim.*—First, the bed plate *g*, in combination with the arm H, axle N, and spindle X, constructed as described and for the purpose set forth.

Second, the jointed tongue B pivoted to the bed, as described.

Third, the rod M, in combination with the rods R, tongue B, and axle N, substantially as described and for the purpose set forth.

**68,647.**—GEORGE N. PALMER, Greene, N. Y.—*Instrument for Opening the Lacteal Ducts*.—September 10, 1867.—The tube is introduced into the lacteal duct, and, as it is withdrawn, the lancets are projected by drawing on the rod, and the end of the teat is cut by the blades to remove the stricture.

*Claim.*—The sheath or cone-pointed tube A, sliding rod D, knob E, and guide pin *e*, as constructed and arranged in combination with the pivoted blades or lancet points *f f*, for operating in the manner as and for the purposes herein set forth.

**68,648.**—WM. H. PARLIN, Canton, Ill.—*Corn Cultivator*.—September 10, 1867.—The frame is braced by the curved arms that support the axles, to the lugs of which the adjustable beams are pivoted.

*Claim.*—First, the strong, durable, and economical frame of attachment between the tongue and axle or wheels, as secured by the simple bars A, in manner and form as shown, or in any similar form, upon the same principle.

Also, the extension hooks *k k* in the beam holder C, substantially as above described, and as in drawing shown, or any similar hook in similar connections, and for the uses herein described.

**68,649.**—WM. S. PAINE, Petroleum Center, Pa.—*Automatic, Self-Closing Barrel-Filling Apparatus*.—September 10, 1867.—As the float rises in the barrel the valve closes, and, at the same time, trips the detent and closes the spigot valve. As the projecting portion is lightened by the absence of the liquid the counterpoise weight lifts it clear of the bung-hole.

*Claim.*—First, the combination of the tubes A and B, jointed at D, with the vertical tubes E and G, the valve E<sup>1</sup>, valve rod *e*, handle F, rod *g*, stop H, spring I, and trigger P, substantially as and for the purpose specified.

Second, the combination of the float K, rod L, lever M, pitman N, lever O, trigger P, cord R, and weight T, substantially as and for the purpose specified.

**68,650.**—D. T. PERKINS and C. F. HOVEY, Springfield, Mass.—*Hose Coupling*.—September 10, 1867.—The two corresponding sections of the coupling are fitted, interlocked, and keyed together with elastic packing in the joint.

*Claim.*—First, the fixed ears or inclined lugs E E, formed upon the parts of a hose coupling, for interlocking or holding such parts in contact, substantially as described.

Second, a hose coupling formed of the part A, and duplicate part A<sup>1</sup>, each having two ears or inclined lugs thereon, as described, in combination with the slotted keys K, pins *e*, and key seats, the whole constructed and operating substantially as set forth.

Third, the method of applying packing to a hose coupling by means of the channels *f n f*, and packing *p*, inserted therein, substantially as set forth.

**68,651.**—SAMUEL S. RAIN, Lowville, N. Y.—*Animal Trap*.—September 10, 1867.—The bell-shaped cage is suspended vertically above the platform; it rests upon a toggle-jointed bar, and is released by the baited trigger, which allows the toggle to double up.

*Claim.*—The use of the suspended cage I, attached to the cross-bar C, together with the pendant F, and the lock 1 2 3 4 5 K, as herein described.



**68,652.**—ANDREW JACOB RICE and ANDREW JAMES RICE, Salem, Mass., assignor to ANDREW JACOB RICE, same place.—*Boot and Shoe Shank.*—September 10, 1867.—The thin plate of steel, of a spring temper, is riveted to the leather portion of the shank to keep it in shape.

*Claim.*—As an article of manufacture, a shank made of leather and steel, secured together by rivets, all substantially as described.

**68,653.**—EDWARD Y. ROBBINS, Cincinnati, Ohio.—*Fireplace.*—September 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, making the general front of the grate concave throughout its height so as to form a highly heated channel of draft for smoke and the dust of ashes entirely within the fireplace and up through the entire height of the grate, and also to secure cross radiation for the purpose of keeping the front of the fire bright, substantially as set forth.

Second, a grate composed of or containing a series of two or more such concavities or recesses.

Third, in certain cases constructing the grate concave in the front lines of its vertical as well as of its horizontal sections, for the purpose of securing a greater amount of cross radiation, *i. e.*, up and down, as well as from side to side, thus increasing the brilliancy and incandescence of the front of the fire and causing it to radiate more heat into the room, substantially as above set forth.

Fourth, in combination with a grate with its main front shaped into such a recess or recesses, making the fire-back parallel, or nearly parallel with the general front of the grate, substantially as above set forth.

Fifth, in combination with a grate of the above shape and set as above described, with shallow coal space from the front bars backward to the brick fire-back, the use of a canopy, either horizontal or arched, over the back part of the fire, and coming forward to within a few inches of the arch of the fireplace or mantel.

**68,654.**—J. G. ROMINGER, Philadelphia, Pa., assignor to himself and J. F. JOHNSON, same place.—*Slide Rest for Lathes.*—September 10, 1867.—Combined with the lower plate and bed of a slide rest is a worm wheel on the latter and a spindle with a worm on the former, so that the point of the tool can be made to traverse in a line at any desired angle.

*Claim.*—The combination and arrangement of the plate A, the worm wheel *b*, confined therein and secured to the short spindle *a*<sup>2</sup> of the bed B of a slide rest, and the worm spindle *c*, all as set forth for the purpose specified.

**68,655.**—H. D. RUMSEY, Homer, N. Y.—*Churn.*—September 10, 1867.—The air is projected into the cream through the perforated arms of the hollow pipe which connects with the bellows.

*Claim.*—The bellows B in combination with the pipe D and arms F, the latter being provided with the orifices *d*, in the manner and for the purpose described.

**68,656.**—OLIVER SALGEE, New York, N. Y.—*Hose Coupling.*—September 10, 1867.—Explained by the claim and illustration.

*Claim.*—A hose coupling formed with inclined or cam flanges upon one part of the coupling, in combination with a movable ring surrounding the other part of the coupling, and provided with lugs, taking over said inclined flanges in the manner specified to bring the surfaces of the couplings together, as set forth.

**68,657.**—HENRY SAYLOR and JEREMIAH BAIR, St. Paris, Ohio.—*Fire-box for Forges.*—September 10, 1867.—The passage of cold water in the water jacket of the pan prevents the overheating thereof and the consequent adhesion of clinkers.

*Claim.*—First, the fire pan A having the double walls, and otherwise constructed as herein shown and described.

Second, in combination with the pan A, made as described, the pipes C and D, connecting it with the reservoir B, when arranged to operate as set forth.

**68,658.**—CALVIN SHEPARD, Binghamton, N. Y.—*Gate.*—September 10, 1867.—The gate rests on the pin to which it is locked by the pivoted lever that is retained in position by the elevis from the bar below.

*Claim.*—The lever catch letter B and the ready fastener letter C, as shown in the combination.

**68,659.**—C. B. SHERMAN, Troy, N. Y.—*Chair and Desk.*—September 10, 1867.—The folded table is hung on the chair arm by a socket joint, which permits its turning forward, in which position it is sustained horizontally; by turning to the side it may be folded down.

*Claim.*—The combination of the chair A, desk or table B with the arm C and ball and socket joint D E, each being constructed, arranged, and combined substantially in the manner and for the purposes herein fully described and set forth.

**68,660.**—HENRY M. SHERWOOD, Chicago, Ill.—*School Desk and Seat.*—September 10, 1867.—The arm that supports the seat is pivoted to the front legs, from which project stops that engage in recesses of the arm and support it in its horizontal position when let down.

*Claim.*—The arm C provided with the socket *m* and the shoulders *n* and *n'*, in combination with the arm *a* provided with the stud *f* and stop *g*, when constructed and arranged for joint operation substantially as described.

**68,661.**—C. D. SMITH, Chicago, Ill.—*Paint for Wood, Metal, and Woven Fabrics.*—September 10, 1867.—Composed of rosin, 300 pounds; Kentucky cement, 75; iron mineral, 100; glue, 6; india-rubber, 8; lead, 3; linseed oil, 3 gallons; benzine, 40; paraffine oil, 10; castor oil, 5.

*Claim.*—The paint prepared out of ingredients and in the manner herein described, and of any color, to be applied to wood, metals, and woven fabrics, substantially as herein set forth.

**68,662.**—PERRY W. SMITH, Abingdon, Ill.—*Cultivator.*—September 10, 1867.—The tongue is bolted into the two transverse bars that are connected by the flanged, curved feet below. The sliding knuckles, in conjunction with the sliding bar, regulate the vertical adjustment of the beam.

*Claim.*—First, the combination of frame pieces A A, bars D D D D, knuckles E, and adjusting bars O O, substantially as described and for the purpose set forth.

Second, the vertical adjustment devices, bars O O, and knuckles E E E E, substantially as described and for the purpose set forth.

Third, the metallic uprights D D D D, arranged as described and for the purpose set forth.

**68,663.**—J. N. SNOWDEN and H. WILKINS, Brownsville, Pa.—*Steam Generator.*—September 10, 1867.—The feed water pipes pass in a zigzag course through the chamber at the back of the boiler.

*Claim.*—The arrangement of a series of zigzag or coiled feed water pipes in the heating chamber *y* of the rear end of a steam boiler, substantially as and for the purposes set forth.

**68,664.**—REINHARD SPEIDEL, New York, N. Y., assignor to the Clinton Wire Cloth Company, of Clinton, Mass.—*Material for Malt Kiln Floors.*—September 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, the pressing and rolling of wire-cloth, in the manner and for the purpose described.

Second, the application of rolled or pressed wire cloth as a bottom to malt kilns, in the manner and for the purpose described.

**68,665.**—EBENEZER SPERRY, Miami Village, Kansas.—*Sorghum Evaporator.*—September 10, 1867.—The pans are placed in an upwardly extending series, and pipes with conical openings presenting toward the bottom of a lower pan connect with an upper one to convey the juice to the latter. Depressions are arranged in the cooler portions of the pan bottoms to collect the settlings; said depressions have outward discharge. Perforated receivers are arranged to catch the scum, allow the return of clear juice to the pans, and discharge the scum outside.



A drying chamber is placed beneath the furnace; the crude juice is passed through a cylinder having a steam jacket, previous to boiling.

*Claim.*—First, the boiler A when its bottom  $a a^1$  is constructed as herein described and set forth.

Second, the combination and arrangement of the boiler A, the elevators B B<sup>1</sup> and troughs B<sup>2</sup>, substantially as and for the purpose described.

Third, the arrangement of the cleanser D D<sup>1</sup> D<sup>2</sup>, substantially as and for the purpose set forth.

Fourth, the sinks E with or without the sub-sinks E<sup>2</sup>, substantially as and for the purpose set forth.

Fifth, the arrangement and combination of the stand pipe B<sup>4</sup> and elevator B<sup>3</sup>, substantially as set forth.

Sixth, the combination of the pipes  $f^2$  and  $f^3$  with the cooler F F<sup>2</sup> F<sup>3</sup>, substantially as set forth.

Seventh, the arrangement and combination of the corrugated cylinders  $g^4$  with the exterior casing  $g^3$  and the pipes G  $g$ , as set forth.

Eighth, the combination of the hot air chamber  $h^3$  with the finishing chamber  $h^4$  and drying chamber H, arranged substantially as set forth.

**68,666.**—LEVI STEVENS, Fitchburg, Mass.—*Apparatus for Carbureting Air.*—September 10, 1867.—Improvement on his patents, April 9, and June 11, 1867. The shaft of the meter wheel has bearing below the center of the partition dividing the meter and regulation chambers, and gears with a wheel on the regulator shaft which has bearing at the center of the partition. Both chambers are partially filled with carbureting liquid. Air is introduced to the top of the meter chamber. As the air is carbureted it is conducted to the regulating apparatus.

*Claim.*—The combination of the cups  $g g$  with the tubular arms  $g^1 g^1$ , attached to the revolving shaft D, so as to rotate with it, and bent at their inner extremity so as to discharge their fluid contents into the chamber A', all constructed, combined, and arranged substantially in the manner and for the purposes set forth.

**68,667.**—HENRY T. STITH, Stanton, Kansas, assignor to himself and MYRON DICKSON.—*Anti-friction Journal Box.*—September 10, 1867.—The annular plate and anti-friction rollers are used to decrease the friction on the axle.

*Claim.*—The box A and ring B, in combination with rollers C, all constructed, arranged and applied in the manner and for the purposes substantially as set forth.

**68,668.**—ALFRED STORM, Rutland, Vt.—*Bed Clothes Clamp.*—September 10, 1867.—The clamp fits over the top of the bed rail, and the clamp is actuated by a set screw in its rear arm.

*Claim.*—First, the clasp constructed with a frame B and jaws C D, operated substantially as described.

Second, the jaws D, arranged so as to be adjustable to varying sizes of bed rails, substantially as described.

**68,669.**—FORDYCE SYLVESTER, New York, N. Y.—*Refining Petroleum.*—September 10, 1867.—By the action of the pump and the communication afforded by the connecting pipes, the petroleum is passed repeatedly and alternately through hot water and through bone black.

*Claim.*—First, refining and purifying petroleum oil by passing it through hot water, substantially as described.

Second, refining and purifying petroleum by washing it in hot water and macerating with bone black, or its equivalent, substantially as described.

Third, the devices herein shown, whereby the water is heated and circulated, and the oil forced through the hot water, substantially as described.

**68,670.**—JOHN R. THOMAS, Mifflintown, Pa.—*Corn Plow.*—September 10, 1867.—The pivoted standards fold up under the frame when the plow is moved from place to place.

*Claim.*—First, the plow points  $d d$ , having the form above described, substantially as and for the purpose specified.

Second, the method of adjusting the direction of the plows, above described, by means of the bolts G G, the braces F F, and the holes  $i i^1$ , passing in differ-

ent directions through the side beams B B, substantially as and for the purpose described.

Third, the washers H H, substantially as and for the purpose specified.

**68,671.**—D. B. TOOLY, Albion, N. Y.—*Cement.*—September 10, 1867.—Composed of white glue, 2 lbs.; water, 3 pints; shellac, 1 oz.; alcohol, 1 pint; ammonia, 1 oz.; plaster of Paris, 2 oz.; white lead, 1 lb.; and gum arabic,  $\frac{1}{4}$  oz.

*Claim.*—A cement composed of the ingredients above mentioned, in about the proportions set forth.

**68,672.**—H. UHRY, New York, N. Y.—*Valve Gear for Steam Engines.*—September 10, 1867.—The prolongation of the eccentric rod is passed through the tubular valve stems in their respective steam chests and the rod receives a continuous motion. Collars are mounted on the rod and have teeth projecting towards each other, springs tending to close them. Their position and the consequent action of the valve is regulated by the governor.

*Claim.*—First, the collars  $e g$ , in combination with the rod  $f$  and tubular valve stem  $b$ , substantially as and for the purpose described.

Second, the cam slide  $i$ , in combination with the collars  $g e$ , rod  $f$ , and tubular valve stem  $b$ , substantially as and for the purpose set forth.

Third, the roller  $j$  connected to the governor spindle  $l$ , in combination with the cam slide  $i$ , collars  $g e$ , rod  $f$ , and tubular valve stem  $b$ , substantially as and for the purpose set forth.

**68,673.**—H. J. WATTLES, Rockford, Ill.—*Gang Plow.*—September 10, 1867.—The front of the plow beams is attached to the frame, which is adjustable vertically on the wheels and further adjusted by the caster wheel in the rear and by crank and chain which raise it from the ground.

*Claim.*—First, the combination and arrangement of the plowing frame B B, wheels H H', caster wheel F, frame support E, chains I J J', with crank  $f$ , operating substantially as described and for the purpose set forth.

Second, the combination and arrangement of the wheel H' with the sliding support K, groove piece L, segment lever M, spring stop  $h$ , with stationary segment  $k$ , when constructed and operating as described.

Third, in combination with the chain support I J J', the arrangement of spring pawl  $e$ , crank  $f$ , and ratchet wheel  $i$ , operating substantially as described.

Fourth, the combination of the stubble turner N with a plowing mechanism, as described.

Fifth, attaching the team to the plowing mechanism by the evener O, and the chains P P being of unequal length, the whole arranged to draw directly upon the plows in such manner as to avoid all side draft, substantially as described.

**68,674.**—L. H. WHEELER, Beloit, Wis.—*Wind Wheel.*—September 10, 1867.—The tail vane is hinged, its flexibility enabling it to yield to lateral pressure and preventing the wobbling motion of the top frame in which the vane shaft is journaled. Weighted cords pass through the hollow axis on which the top frame oscillates and restore the tail vane to its central position.

*Claim.*—First, the flexible regulating vane J operated by the weights, cords, and pulleys substantially as described, in combination with the side vane O, for the purpose set forth.

Second, the vane J constructed with braces K K', stops Y', and strap Y, as and for the purpose set forth.

Third, the hollow shaft D, in combination with the flexible vane J, cords H H, and connecting rod S, so that said cords and connecting rod may not influence the action of the vane Q and the supporting frame, as set forth and described.

**68,675.**—WM. H. WILEY, Fredonia, N. Y.—*Filters.*—September 10, 1867.—The filtering material is contained in a porous cylinder, the upper portion of which is covered by a metallic cap of larger diameter, admitting the water but excluding the air. The pump tube communicates with a central water chamber.

*Claim.*—A water filter having a hollow porous cylinder A in arrangement with the inverted cap B, for the purpose and substantially as described.



**68,676.**—A. T. WILLIAMSON, La Crosse, Wis.—*Washing Machine*.—September 10, 1867.—The sleeve elbows connect the levers with the movable perforated washer. The perforated back board has wings attached to hold the clothes in position.

*Claim.*—First, the combination of the sleeve elbows F having recesses conforming to the shape of levers B and washers *i k h*, arranged substantially as and for the purpose set forth.

Second, the combination of back board L having wings *m*, in combination with the recessed washer *i k h*, sleeve elbows F, levers B, and the double lids E D, arranged substantially as and for the purpose set forth.

**68,677.**—SAMUEL R. WILMOT, Bridgeport, Conn., assignor to THE COLBY SKIRT COMPANY.—*Clasp for Hoop Skirts*.—September 10, 1867.—The jointed clasps connecting the horizontal and diagonal hoops are attached to each other by hinged joints, allowing the hoops to be moved independently of each other.

*Claim.*—The combination in hoop skirts of the following parts or devices for connecting the ends of diagonal hoops B to the edges of horizontal hoops A, to wit, a metallic or other strap C attached to a horizontal hoop, and perforated where the strap projects beyond the edge of the hoop, and a strap E attached to the end of a diagonal hoop and jointed to the strap C, when the said straps are so constructed and arranged that the end of joint G of strap E, after it is attached to strap C, is permanently secured to the diagonal hoop by being confined beneath the flanges F F of strap E, substantially as above set forth.

**68,678.**—MARMADUKE WILSON, Marquette, Wis.—*Corn Cultivator*.—September 10, 1867.—The frame is attached to standards on the tooth beams at sufficient elevation to pass over the young corn. The beams are elevated or depressed by levers.

*Claim.*—First, the levers H and I used in combination with the tongue G and cross-bars B B' of a cultivator frame, arranged and operating substantially as and for the purpose set forth.

Second, the combination of the standards C C C C with the frame A A B B' and braces E E, as and for the purpose set forth.

Third, the clevis *o* attached to the cross-bar B, in combination with the adjustable tongue G and levers H I, substantially as and for the purpose set forth.

**68,679.**—WM. B. YOUNG, Chicago, Ill.—*Cultivator*.—September 10, 1867.—The axles bend round and are secured to the vertical sides of the frame. The split tongue braces the frame.

*Claim.*—First, the combination in a straddle-row cultivator of the main frame, split tongue, jointed plow beams, and wheels.

Second, the combination of wheels and jointed plow beams in a straddle-row cultivator, the beam on each side having its joint or point of attachment out of the line of motion of its set of plows.

Third, the combination in a straddle-row cultivator of wheels, doubletrees, whiffletrees, jointed plow beams, and frame when the plow beams are jointed forward of the whiffletrees.

**68,680.**—JOHN ADT, Walcottville, Conn.—*Riveting Machine*.—September 10, 1867.—Intended for heading castor and hinge pintles, &c. The spring hammers strike the opposite ends of the pintles simultaneously. The working parts are adjustable to suit rivets of varying lengths.

*Claim.*—First, the two hammers D so combined and operated as to simultaneously strike the two ends of the rivet in heading the same, by means substantially as herein set forth.

Second, the combination with the reciprocating hammers D of sleeves C and springs *e\* g\**, the whole arranged to operate substantially as and for the purpose herein set forth.

Third, the combination of the wheels C\* and carriages B with the reciprocating hammers D, constructed and operating substantially as and for the purpose herein set forth.

Fourth, the adjustable stop plates F, in combination with the carriages carrying the riveting hammers, substantially as and for the purpose herein set forth.

**68,681.**—MARTIN AMES, New Ipswich, N. H.—*Self-registering Thermometer*.—September 10, 1867.—The thermometer needle is attached to a coiled metallic ribbon, whose expansion and contraction by change of temperature oscillates the needle. The independent needles are actuated by this one, and denote the extremes reached. These independent needles have thumb burs by which they may be turned.

*Claim.*—First, the independent needles *r w*, in combination with the thermometer needle *n*, arranged and operating as and for the purpose described.

Second, the combination of the hollow shaft *b*, the pin *s*, the needle *n*, and the metallic ribbon coils *d d'*, constructed, arranged, and operating as herein shown and described.

**68,682.**—E. B. ARMSTRONG, Columbus, Ohio.—*Cut-off for Water Conductors*.—September 10, 1867.—The cut-off pipe has side discharge, and may be semi-rotated to convey the water into either of two pipes. The cut-off is held in position by a spring.

*Claim.*—First, the revolving cut-off C C', in combination with the external casing A and extension pipes B and B', substantially as and for the purpose set forth.

Second, the combination and arrangement of the casing A, pipes B and B', internal intermediate partition A', cut-off C C', and internal pipe D, substantially as described.

Third, the combination of the casing A, pipes B and B', cut-off C C', handle C<sup>2</sup>, and spring E, substantially as described.

**68,683.**—T. H. ARNOLD, Troy, Pa.—*Horse Hay Fork*.—September 10, 1867.—The hoisting rope is attached to the sliding tooth, which, when the two fixed teeth are inserted in the hay, is forced down, being guided by a projection on one tooth, and passing through an eye near the point of the other. A notch in the sliding tooth is forced by a cam to engage a pin. To discharge the hay the cam bar is raised by a small cord.

*Claim.*—First, the sliding tine C and locking catch D, in combination with the main tines A B, substantially as and for the purpose specified.

Second, the guard *d*, in combination with the tines A B, and sliding tines C, substantially as and for the purpose herein set forth.

Third, the recess *s* and stud *c'* of the sliding tine, arranged in relation with the strap *e* and locking catch D, substantially as and for the purpose specified.

**68,684.**—H. F. BALSCHMITER, Davenport, Iowa.—*Gate*.—September 10, 1867.—The top rail of the gate is tubular, and contains spherical rolling weights. This rail is pivoted to the rear post, and is swung upon its pivot when opening. The extension at the rear end of the bar acts as a counterbalance, and the rolling shot makes a balance of weight to open the gate or keep it closed.

*Claim.*—The gate C, when provided with the rolling weights E, in the manner and for the purpose specified.

**68,685.**—HENRY BASCH, Chicago, Ill.—*Permutation Trunk Lock*.—September 10, 1867.—The bolt plate has projections which pass through notches in the sliding bars, which are adjusted to permit the passage of the projections by scale on the lock face. The bolt and the tumbler bars have studs passing through slots in the lock face by which they are operated.

*Claim.*—The combination of the grooved slats *a a* and *d d*, grooved rails F F, and hinged plate K, with sliding T-shaped notched bars B and G G, and slots D and H H, constructed as described, the whole arranged and operating substantially as and in the manner herein set forth and for the purpose specified.

**68,686.**—JOHN A. BASSETT, Salem, Mass.—*Process of Vaporizing Hydro-carbon Liquids*.—September 10, 1867.—The hydro-carbon liquid is injected onto or into the fused metal.

*Claim.*—Vaporizing hydrocarbon oils for heating purposes by a bath of melted metal, in the manner substantially as set forth.



**68,687.**—JACOB BECK, Philadelphia, Pa.—*Conductor's Ticket Punch*.—September 10, 1867.—The joint flanges are recessed on the inner face to form an annular chamber for reception of a spiral spring to hold the jaws apart. The punch, when used, passes through a circular plate attached to an elastic cushion, and has beneath it a spiral spring to bring the plate in contact with the socket jaw in advance of the punch, and clear the ticket for the latter.

*Claim.*—First, the concentric bearing rings or flanges *f g* of the joint *F*, substantially as described for the purpose specified.

Second, the enclosed coiled spring *G* of the joint *F*, substantially as described for the purpose specified.

Third, the seat *E*, in combination with the spring *C*, substantially as described, for the purpose specified.

Fourth, the spiral spring encircling the stripper *a*, substantially as and for the purpose described.

Fifth, the construction of the joint consisting of the circular parts *d* and corresponding parts *d'* of the jaws and handles, substantially as described.

Sixth, the combination of the flexible cushion *D* and spring *C*, applied to the stripper *a*, substantially as described for the purpose specified.

**68,688.**—JOHN AARON BELVIN, Jr., Baltimore, Md.—*Catamenial Guard and Supporter*.—September 10, 1867.—The rear portion of the supporter of the absorbent is sustained by two straps, which may be unhooked to allow the descent of the same.

*Claim.*—First, the combination of the front, back, and middle parts *A B C*, the elastic straps *D* and *E*, and the sponge *F*, when constructed and arranged substantially as described for the purpose specified.

Second, the absorbent, consisting of the flat pieces of sponge *F*, jointed together and conforming to the shape of the middle part *B*, in combination therewith and with the front and back pieces *A* and *C*, substantially as described for the purpose specified.

**68,689.**—HENRY BERKSTRESSER, Quaker Bottom, Ohio.—*Rotary Plow*.—September 10, 1867.—The plow wheel is rotated by gear connection to the axle, and the frame is adjustable in respect to the tongue to regulate the depth.

*Claim.*—First, the plows *e e*, fitted upon the periphery of the wheel *E*, constructed and arranged as shown and described, as and for the purpose specified.

Second, the combination of the wheel *E* with the tilting frame *A*, the draft pole *F*, and the lever *d*, arranged and operating substantially as and for the purposes set forth.

**68,690.**—M. D. BIRGE, Grand Rapids, Mich.—*Horse Hay Fork*.—September 10, 1867.—The spiral fork is inserted by rotation of the winch, which simultaneously winds up the hoisting rope. The rope is prevented from unwinding by a catch lever. This catch is connected to a cord by which it may be freed. The rope running off unscrews the fork and releases the hay.

*Claim.*—The spiral fork *A*, when fitted in a frame or plate *B*, and when connected by means of gear wheels, or their equivalents, with a drum *D*, in combination with the catch *F*, all made and operating substantially as and for the purposes herein shown and described.

**68,691.**—JACOB BISH, Dayton, Ohio.—*Horse Power*.—September 10, 1867.—The master-wheel shaft is stepped in the lower plate, which is bolted to the mud-sills. This plate has circular recesses to receive the bosses of the upper frame giving bearing to the pinion wheels.

*Claim.*—The boss *o* of the frame *A*, and the corresponding cavity of the frame *B*, and the relation of the bolt *D* to the same, in the manner substantially as described and for the purpose specified.

**68,692.**—CHARLES D. BLAKESLEE, Grand Rapids, Michigan.—*Gate for Water Wheels*.—September 10, 1867.—The valves are connected together by gearing, so as to rotate simultaneously in opposite directions. A common ball governor is connected to one of the valves.

*Claim.*—First, the cylindrical valves *D* revolving against each other and having apertures *G G*, substantially as and for the purposes described.

Second, in combination with the above the curb *A* provided with the apertures *B* and *C*, substantially as and for the purpose specified.

**68,693.**—ISAAC W. BOATMAN, Seven Mile, Ohio.—*Horse Rake*.—September 10, 1867.—The rake is used for hay or cornstalks and has pins traversing the head when raking the latter, to assist it in rolling over the collected mass. The end teeth have shoes to sustain the head in the proper position and to decrease the friction upon the ground.

*Claim.*—The frame *e f g*, with its handle *h* provided with hinged links *o o*, in combination with the fixed pins *k k* and removable pits *m m*, whereby the rake is made convertible for the purpose of raking stalks or hay, in the manner described.

**68,694.**—S. E. BRIGHT, Elkhorn, Wisconsin.—*Door for Grain Cars*.—September 10, 1867; antedated August 26, 1867.—The doors are constructed in sections, one above the other, so that access can be had to a car nearly filled with grain in bulk.

*Claim.*—The sliding door for grain cars, put on the outside or inside of a car, consisting of two sections *B* and *C*, in combination with tracks *t t'*, said sections constructed and operating substantially as herein described and specified.

**68,695.**—F. H. BROWN, Chicago, Ill., assignor to himself, EDWARD F. PEUGEOT, and LEMUEL H. FLERSHEIM.—*Machine for Weaving Baskets*.—September 10, 1867; antedated March 10, 1867.—The frame is clamped to a rotating disk which is automatically moved back as the work progresses, and which is supported on an oscillating frame. The plate, in rotating, brings the ribs in connection with the filling devices by which the willow twigs are woven in.

*Claim.*—First, the coil spring *O*, in combination with the shaft *C*, nut *P*, and spring *v*, or their equivalents, for the purpose of moving the form *D* backward regularly and for adjustment substantially as set forth.

Second, the oscillating frame *A*, in combination with the basket form *D* and weaving devices, substantially as and for the purpose set forth.

Third, the yoke *B*, in combination with the shafts *C C'*, for the purpose of holding or clamping the form *D* as specified.

Fourth, the feed bar *M*, in combination with the separator *I I'*, substantially as described and set forth.

Fifth, the guide *H H' H''*, substantially as and for the purpose specified.

Sixth, the fork *I I'*, as and for the purpose specified.

Seventh, the weaving wheel *L*, in combination with the separator *I I'* when constructed to separate and keep the uprights *E E*, &c., in position to receive the filling *Y* as set forth.

Eighth, the controlling band *F*, constructed as described as and for the purpose set forth.

Ninth, the peculiar construction of the shank *7* and *8*, forming the opening *K*, as and for the purposes set forth.

Tenth, the frame *U*, carrying the weaving devices, and pivoted so as to turn about a center, as and for the purposes set forth.

**68,696.**—JOHN BUCKLEY, Baltimore, Md., assignor to THOMAS J. LOGAN, Washington, D. C.—*Milk and Oyster Can*.—September 10, 1867.—The tube is for reception of ice to preserve the contents of the can in a cool condition.

*Claim.*—The tube *F* resting on the concave bottom *B* of the can *A* and extending to the top of the can, being held in position by means of the pressure of the cover *D* and prevented from moving laterally by means of the downward extending rim *E* on the cover *D*, substantially as described.

**68,697.**—W. R. CLARK, Indianola, Ill.—*Ditching Plow*.—September 10, 1867.—The forked concave shares and curved side elevators raise the earth and project it to the side of the track.

*Claim.*—The foot piece *B*, having its forward end made forked to incline the dirt and other obstruction toward the center, in combination with the brace bars *E F C* and *D*, side elevators *G H*, and side wings *J K*, substantially as described, for the purpose specified.



**68,698.**—CHARLES COESTER, Jr., and A. B. LAW-  
THER, Bridgeport, Conn. — *Machine for Grinding  
Lathe Arbors.*—September 10, 1867. — The frame is  
attached to the lathe so as to take motion by friction  
of one of its pulleys on the cone, and to transmit mo-  
tion to a rotary cutter which may be brought to bear  
on the head center or other object.

*Claim.*—The extension plate I and supporting plate  
P, pivoted together, in combination with the adjust-  
able supports S C and spring V, tool holder A, grooved  
bed D having shank B, sliding carriage E, friction  
pulleys L H F, and grinding wheel R, whereby the  
angle at which the grinding wheel is applied to the  
mandrel is adjusted, substantially as described, for the  
purpose specified.

**68,699.**—AMBROSE B. COLEMAN, Lyndonville, N.  
Y. — *Draft Neck Yoke.*—September 10, 1867. — The in-  
clined levers are attached to the hames at top, and at  
the bottom are pivoted to the bands in which the hori-  
zontal levers slide. The outer ends of the lower levers  
are attached to the hames below. The neck yoke is  
used as a mode of attachment without the use of  
whiffletrees.

*Claim.*—The whole of the improved draft neck  
yoke, as herein described in this specification, as and  
for the purpose set forth.

**68,700.**—THOMAS B. COMINS, Jr., Lowell, Mass.  
— *Car Brake.*—September 10, 1867. — The eccentric  
cams that are pivoted to the shoe bars are weighted  
to swing clear of the wheels when the chain is slack-  
ened. When the brake is applied the cams are pressed  
against the periphery of the wheels.

*Claim.*—First, the eccentrics G attached to the ends  
of the shoe bars, substantially in the manner and for the  
purpose herein shown and described, the said eccen-  
trics being free to turn on their pivots and weighted,  
substantially as and for the purpose herein shown and  
described.

Second, the spring F, in combination with the shoe  
bars E E' and eccentrics G, all made and operated  
substantially as and for the purpose herein shown and  
described.

**68,701.**—THOMAS B. COMINS, Jr., Lowell, Mass.  
— *Car Brake.*—September 10, 1867. — The wheel acts  
upon the eccentric and, turning it, throws out the  
lower end of the shoe and causes the upper end to  
bear with increased power against the wheel.

*Claim.*—First, the eccentric G, when secured to  
the ends of the shoes F, substantially as herein shown  
and described.

Second, the construction and arrangement of the  
vertical springs a supporting the shoe bar E, hori-  
zontal bar e e, lever d, and spring g between the outer  
head of the bolt f and shoe bar E, as herein set forth,  
for the purpose specified.

**68,702.**—FREDERIC COOK, New York, N. Y. —  
*Apparatus for Vaporizing and Burning Liquid  
Hydrocarbon.*—September 10, 1867. — The oil and  
steam pipes are regulated by stop-valves. The oil is  
discharged on an inclined expansion plate, and that  
not consumed or vaporized falls on the projection from  
the pendent deflector. Steam and air tubes discharge  
their jets into the retort.

*Claim.*—First, the steam and oil pipes L and N,  
having the connecting valve V, for the purpose speci-  
fied.

Second, a combustion chamber for burning liquid  
hydrocarbons, made of fire-clay, or its equivalent, in  
sections or staves, in the manner and for the purpose  
as shown and described.

Third, the inverted chamber or hood k, when ar-  
ranged for the purpose and in the manner shown.

Fourth, in the apparatus for burning liquid hydro-  
carbons, the arrangement respectively of the steam  
pipe L and oil pipe n, for the purpose of volatilizing  
the lighter portions of the oil by the heat of steam.

**68,703.**—FREDERIC COOK, New York, N. Y. —  
*Vaporizing and Burning Liquid Hydrocarbon.*—  
September 10, 1867. — The water legs are attached to  
the boiler and the bottom of the metallic retort is ex-  
posed to the direct heat of the furnace, so as to vapor-  
ize and decompose the hydrocarbon. The bottom,  
being highly heated, is arranged to be easily renewed.

*Claim.*—First, a retort or vaporizing chamber for

oil-burning furnaces, the upright portions of which are  
made of water legs or pipes communicating with the  
boiler, and the bottom of iron, fire-clay, or other suit-  
able material as a vaporizing surface, substantially as  
shown and described.

Second, in an apparatus for vaporizing and burning  
hydrocarbon liquids, a retort or chamber having a re-  
movable bottom plate, as set forth.

Third, the retort or vaporizing chamber suspended  
from the boilers, substantially in the manner specified  
and shown.

**68,704.**—FREDERIC COOK, New York, N. Y. —  
*Apparatus for Burning Petroleum and Fluid made  
therefrom.*—September 10, 1867. — The oil, in its pas-  
sage from the reservoir, is heated by passing through  
a steam chamber and is regulated by a tap, previous  
to entering the drip chamber where it is ignited. Ap-  
ertures on each side of the drip chamber furnish  
air from the chambers adjoining. The products of  
combustion are retarded in their ascent by deflectors,  
thereby providing time for their mixture with the cur-  
rents of air and steam that are discharged from the  
central vertical tube.

*Claim.*—The use of plates and deflectors, or either  
of them, within the retort, thereby forming compart-  
ments therein for the purpose of retarding the flame  
and producing a more perfect combustion.

Also, the use of retorts having perforations for the  
admission of air, in combination with the flats or com-  
partments, substantially as described, for the purposes  
set forth.

Also, the construction and arrangement of the oil-  
supply pipe H, with its connections; the cooler H'  
and the regulating valves J Y, substantially as de-  
scribed.

Also, protecting the oil-feeding pipes and apparatus  
from the heat of the furnace by the fire-clay, tile, or  
other suitable material, substantially as described.

Also, the general construction of the apparatus de-  
scribed and shown.

**68,705.**—FREDERIC COOK, New York, N. Y. —  
*Method of Using Liquid Hydrocarbons as Fuel.*—  
September 10, 1867. — The oil used as fuel in the furnace  
is forcibly injected through the feed jet, to equalize its  
distribution through the fire box.

*Claim.*—First, producing the requisite pressure in  
the oil tank by means of the steam pressure in the  
boiler, substantially as described.

Second, in an apparatus for burning petroleum or  
other inflammable oils, forcing the oil into the furnace  
by means of artificial pressure in a supply tank sub-  
stantially such as is herein described, said pressure  
being created in any of the modes herein mentioned.

**68,706.**—FREDERIC COOK, New York, N. Y. —  
*Apparatus for Burning Petroleum as Fuel.*—Septem-  
ber 10, 1867. — The supply pipe has two valves, one of  
which regulates and the other shuts off the supply. The  
petroleum drips on to the inclined plate at the  
mouth of the furnace, and, passing over another in-  
cline, the unconsumed remainder is caught and con-  
sumed in the trough below. Water passing through  
the perforated plate is finely divided and mixed with  
the falling petroleum. A water pipe supplies water,  
if necessary, to the oil pipe. A cock is used to let off  
gas that may gather in the oil pipe.

*Claim.*—First, in a furnace for burning petroleum  
or other liquid hydrocarbons as fuel, the feeding ap-  
paratus connected with, and arranged as a part of,  
the furnace door.

Second, the employment of a cutter or cleaner for  
the purpose of cleaning the oil pipe, substantially as  
set forth.

Third, the arrangement of the deflecting tile W,  
when used for the purpose and in the manner substan-  
tially as described and shown.

Fourth, the air-distributing tiles, when perforated  
and arranged substantially in the manner as described.

**68,707.**—FREDERIC COOK, New York, N. Y. —  
*Method of Burning Hydrocarbon Oils as Fuel.*—  
September 10, 1867. — The water evaporators are ar-  
ranged in the furnace. The vapor is intended to dis-  
seminate the air among the gases and the flame,  
bringing the air into intimate contact with them. Air  
is forced through the oil to enable the burning of  
the light portions first.



*Claim.*—First, the arrangement substantially as described by which water is applied and evaporated by the plates Q Q, or other equivalents when used for this purpose, substantially as set forth.

Second, the cap M, arranged within the cup G, and perforated as described so that air may be forced through it for the purpose and in the manner specified.

Third, the pipe N, arranged as and for the purpose described, in combination with its two connections, one with the steam space and the other with the water space of the boiler.

Fourth, in combination with the air chamber J, the air pipes K, through the water legs of the boiler, for the purpose of introducing air into the furnace, substantially as described.

**68,708.**—FREDERIC COOK, New York, N. Y., and JOHN A. BASSETT, Salem, Mass.—*Process of Vaporizing and Decomposing Hydrocarbon Liquids in the presence of steam.*—September 10, 1867.—The steam is decomposed upon red hot carbon, and the vapors of the oil, being eliminated simultaneously with the decomposition of the steam, are passed through the red hot carbon. The resultant gases are used for the production of heat and light.

*Claim.*—First, in an apparatus for decomposing hydrocarbon oils with steam, the arrangement and construction of the apparatus shown, having the several parts or their equivalents arranged and operating together in the manner and for the purpose specified.

Second, the process herein described, whereby hydrocarbon oils and steam are decomposed simultaneously into gases and used in the production of heat, as set forth.

**68,709.**—ISAIAH COPLEY, Jr., Allegheny City, Pa.—*Machine for Making Chains.*—September 10, 1867; antedated August 12, 1867.—The jaws place the iron in the recess of the collar. As the shaft wheel and disk rotate, the pin comes in contact with the spring that draws back the rod, the head of which carries forward the spring clamp and feed guide. The guide thrusts the iron into the recess of the collar that is held out toward the end of the mandrel, round which it is formed. The scarf end is next made, giving the required overlap for welding.

*Claim.*—First, an improved machine for forming links for chains that shall grasp the iron supplied to it, form the link, cut the scarf, and give the desired overlap for welding, and continue to feed up the iron until it is entirely expended in forming links, constructed, arranged and operating substantially in the manner herein described and set forth.

Second, the combination of the collar *a*, mandrel *c*, rib *s*, constructed, arranged and operating substantially as herein described and for the purpose set forth.

Also, the support *y*, or its equivalent, when used for supporting the mandrel, operated by means and in the manner substantially as herein described and set forth.

Also, the combination and arrangement of the springs B<sup>1</sup> and B<sup>2</sup>, rod *w*, spring clamp J, feed guide *x*, and piece *k*, constructed, arranged, combined and operating substantially in the manner herein described and for the purpose set forth.

Also, the combination of the skrods C', cross piece J', and latch R<sup>2</sup>, when used in connection with the wheels D and D', as herein described and for the purpose set forth.

**68,710.**—ENOCH COVERT, Farmer Village, N. Y.—*Snap Hook.*—September 10, 1867.—The closing bar is projected into position by the spring that engages the foot.

*Claim.*—The spring C, applied to the top of the closing bar B, and secured in position by means of the lips *b*, whereby the introduction of dirt beneath the spring is prevented and said spring adapted to be removed from the hook A without removing the closing bar, as herein shown and described.

**68,711.**—JOHN W. CRANNELL, Yorkville, Mich.—*Water Elevator.*—September 10, 1867.—The bucket is raised by the rope that winds upon the perforated drum; the forked shape of the rope next the bucket brings one of the hooks into position to engage the rod that tilts the bucket. When the lever is unhooked and pressed aside, the drum is unclutched from its shaft and the bucket descends to the water.

*Claim.*—The combination of the loose flanged drum D, and attached rope and bucket with the crank shaft S, elutches *o o'*, shifting brake lever L, pivot stud G, and hook H, arranged, constructed and operated substantially as and for the purpose herein specified.

**68,712.**—CHARLES CROOK, Yonkers, N. Y.—*Expansible Hose Nozzles.*—September 10, 1867; antedated September 4, 1867.—The leaves of the outer nozzle are contracted to the desired size by the nut. The duplex inner tube breaks the joints between the leaves.

*Claim.*—The combination of the duplex inner tube with the split nozzle, substantially as shown and described.

Also, in combination therewith the means of adjustment, substantially as shown and described.

**68,713.**—WAYNE CURRY, Springfield, Mass.—*Steam Engine Slide Valve.*—September 10, 1867.—The valve being inserted in its case and the rod attached, the top of the case is secured. The valve case is placed in the steam chest and the apertures and the port being in a direct line one above the other, steam is admitted through the port, while the exhaust steam from the other end of the cylinder passes into the chamber through the aperture and exhaust port.

*Claim.*—The valve D, having the vertical ports F and F', in combination with the valve case A, the packing ports *a* and *a'*, and a spring *n*, all constructed and operating substantially as described and for the purposes herein specified.

**68,714.**—P. W. DALTON, Jersey City, N. J.—*Chain Clasp for Handling Hogs in Slaughtering.*—September 10, 1867.—The chain is attached to one end of the plate and the key on the end of the chain engages in the slot to form a bight for looping around the leg of the animal.

*Claim.*—The slotted plate A, the key B, the rings *f g*, and the chain *c*, constructed and arranged substantially as herein shown and described for the purpose specified.

**68,715.**—SAMUEL DANKS, Cincinnati, Ohio.—*Lining or "Fix" for Puddling and Boiling Furnaces.*—September 10, 1867.—Lime, salt or other alkali is mixed with the cinder or ore used to fix the puddling furnace.

*Claim.*—The use of puddlers' or boilers' tapping cinder, squeezer, cinder or hammer cinder, and pulverized iron ore, when mixed with an alkali or alkalies, such as lime, common salt, soda or potassa, separately or combined, for lining or fixing puddling or boiling furnaces.

**68,716.**—JOHN DIMELOW, Philadelphia, Pa., assignor to himself, T. P. STUARD, and J. STUARD, same place.—*Kiln for Burning Clay Pipes.*—September 10, 1867.—The caloric current from the fire-places in the side circulates within the kiln and passes down through pipes to find exit through a central chimney. The domed kiln top has openings for passage of the caloric current when the covers are removed.

*Claim.*—First, a kiln having fire-places *a*, a chimney C, and rings *i*, or their equivalents, the whole being so arranged that the products of combustion in their passage from the fire-places to the chimney must pass both through and around the pipes *m*, resting on the said rings for the purpose specified.

Second, the ribs *h h*, rings *i i*, and bridge *f*, arranged within a kiln in respect to the fire-places and chimney, substantially as and for the purpose set forth.

**68,717.**—CASPER DISSER, West Union, Ohio.—*Shifting Rail for Buggy Seats.*—September 10, 1867.—The supplementary rail is attached by coupling straps behind and by a return catch spring in front of the arms.

*Claim.*—The combination of a carriage seat and rail when constructed and provided with hooks and catches, substantially as and for the purpose specified.



**68,718.**—LORENZO DOMING, Ottawa, Ill.—*Riding Attachment for Gang Plows*.—September 10, 1867.—The plow is attached in front and regulated by its connection with the bell crank that is operated by the treadle lever. The stirrup that attaches the plow behind is secured to the pivoted bar that is regulated by the suspended rack.

*Claim.*—First, the attaching of the plow to the draft pole A of the riding attachment through the medium of the bell crank J, rods I K, and lever M, or their equivalents for raising the front end of the beam, in connection with the suspended rack R, and the bar P jointed or hinged to the draft pole A, and connected with the plow beam by the stirrup O, substantially as and for the purpose specified.

Second, the cam S, on the axis or fulcrum pin of the lever L, in combination with the suspended rack R and fixed pawl b, all arranged substantially as and for the purpose set forth.

Third, the axle B B', projecting from opposite sides of the draft pole A at different points, and braced by the diagonal bar C, when said parts are used as a riding attachment for a tillage plow, substantially as and for the purpose specified.

**68,719.**—CLARK W. DOTEN, East Boston, Mass.—*Steam Engine Lubricator*.—September 10, 1867.—The valve stem is tubular, and the oil passes from the cup at its head to the bulb when in its depressed position, but communication is cut off when the stem is raised, which is done by turning the said stem by means of the cup acting as a hand wheel. The raising of the stem opens a valve at the lower part of the bulb, and allows the oil to escape therefrom. The steam passes up the lower portion of the valve stem into the upper part of the bulb, and equalizes the pressure above and below the oil, when it flows down by gravity to lubricate the cylinder.

*Claim.*—The valve stem B, with its valves C and d, the tubular spindle C, with its apertures o and h connected with the valve stem as shown, the whole constructed, arranged and operating substantially as set forth, in combination with the shell A.

**68,720.**—JOHN FAIRCHILD, Eagleville, Ohio.—*Cement Compound*.—September 10, 1867.—Composed of water lime, silicious sand, and coal tar equal parts. To give tenacity and flexibility one pound of sulphur is added to 20 gallons of the tar, or to confer hardness an equal portion of sulphate of lime is added.

*Claim.*—The composition herein described, compounded in the manner and for the purpose set forth.

**68,721.**—JOHN FAIRCLOUGH, St. Joseph, Mo.—*Steam Engine*.—September 10, 1867.—Steam is inducted and exhausted through the tubular piston rods and through passages in the piston. The steam chest is contained in the piston and operated by the impingement of the ends of the stem against the cylinder ends.

*Claim.*—First, the valve B, constructed as described and operated by means of the cylinder heads through the rods D, as herein set forth, for the purpose specified.

Second, the steam chest C, and the steam and exhaust ports a a and h, within the piston, substantially as described.

Third, the piston A, having the slide valve steam chest and steam ports arranged within it substantially as described, in combination with a steam cylinder, substantially as and for the purposes set forth.

**68,722.**—H. T. FIELD, Worcester, Mass.—*Fruit Safe*.—September 10, 1867.—The trays are formed of thin slats halved together and have notches to allow passage to air. The trays are placed in a box with one latticed side to admit air.

*Claim.*—The fruit safe composed of the peculiarly constructed trays in connection with the cases as shown, the whole constructed and operating in the manner and for the purposes as above set forth and described.

**68,723.**—J. B. M. FIFIELD, Philadelphia, Pa.—*Side-board and Refrigerator*.—September 10, 1867.—The lower portion of the side-board contains a refrigerator, and its point has a hinged flap which may be raised as a table leaf.

*Claim.*—A side-board having a refrigerator or

water cooler or both combined with it, substantially as and for the purpose specified.

Also, the combination of a side-board, refrigerator and table, as herein shown and described.

**68,724.**—JOHN R. FISH, Fort Wayne, Ind.—*Valve Gear for Steam Engine*.—September 10, 1867.—The link is pivoted to a block having horizontal sliding motion upon another block having vertical sliding motion. The sustaining and shifting hanger is connected to the latter block.

*Claim.*—First, the guide A, placed in an upright position and perpendicular to the line of motion from the driving shaft, upon which guide the link is raised and lowered, substantially as shown and described.

Second, the combination and arrangement of the guide A, horizontal guide C, and blocks B D, substantially as described for the purpose specified.

**68,725.**—ANDREW J. FRENCH, Waterbury, Conn., assignor to WATERBURY BRASS COMPANY.—*Machine for Lining Percussion Caps*.—September 10, 1867.—The caps are placed in the perforations of the horizontal sliding plate. The punch moves on a stationary guide across the plate, and entering each hole, lines the caps in succession with the tin foil, the plate being moved as each row is completed.

*Claim.*—First, the reversible worm G, with its sleeve e, working upon the grooved shaft D, and provided with an oscillating dog g, substantially as set forth.

Second, the device for feeding the frame F, consisting of the sleeve e, worm G, ratchet bar f, shaft D, all made and operating substantially as herein shown and described.

Third, the sliding toothed bar f, in combination with the reversible worm G and stops o o', for the purpose of retaining the punch in position, so as to line the first cap in a new row, all as set forth.

Fourth, the device for feeding the plate B, consisting of the recessed disk L on shaft M, and of the pawl r on swinging frame I, all made and operating substantially as herein shown and described.

**68,726.**—DANIEL FULLER, Oakwood, Mich.—*Gate*.—September 10, 1867.—The rails of the gate are all pivoted to the rear post and uprights, and the upper rail carries a sufficient counterbalance weight to raise the gate when the latch is drawn back. The gate is operated by levers in reach of an equestrian.

*Claim.*—The levers D and F and H I, with their cords E G and J K, when arranged with the gate posts and their pulleys, and the gate with its shafts pivoted to the rear post, the whole operating as and for the purpose specified.

**68,727.**—PETER GABRIEL, Seymour, Conn.—*Fountain Pen Holder*.—September 10, 1867.—The pen end of the holder is immersed in the ink, which is drawn into it by suction from the mouth; the float being drawn up to the mouth-piece to stop the orifice, and prevent the passage of ink.

*Claim.*—First, the float M, constructed as described, sliding nearly the entire length of the case A, and arranged in relation with the plug B, as herein set forth for the purpose specified.

Second, the construction of the stopper C D E, substantially as herein described, and so as to be used for the purpose, and to be susceptible of the adjustments herein specified.

**68,728.**—C. E. GAGE, Fond du Lac, Wis.—*Weighing Scale*.—September 10, 1867.—The scale is hung on a beam and connected to a frame by links, so as to have free vertical movement.

*Claim.*—First, arranging a bag-holder D, in connection with the suspension rods of the scale, as and for the purpose specified.

Second, balancing the scale with an adjustable weight d in a vertical mortise in the rear of the beam, as described.

**68,729.**—MERRITT GALLY, Marion, N. Y., assignor to ORRIS POTTER and FREDERICK GRANDIN, Walworth, N. Y.—*Everer for Whiffletrees*.—September 10, 1867.—Improvement on his patent March 26, 1867. The hook straps are attached to clevises in the lever projections,

*Claim.*—The curved projections of the body of the



eveners E' E', the pivoted clevises for the attachment of straps or chains, in combination with the lever projections C C, and constructed as herein set forth.

**68,730.**—O. L. GARDNER, New York, N. Y.—*Mirror Frame.*—September 10, 1867.—The sides of the frame are rabbeted to receive the glass, and are adjustable so as to be moved in to clamp the same to place.

*Claim.*—First, a frame for mirrors, &c. in which the side-pieces are arranged to be adjusted with regard to each other, substantially as and for the purposes described.

Second, the groove or rabbet  $\alpha$  having beveled side pieces, arranged for adjustment of a frame for mirrors, &c., substantially as and for the purpose described.

**68,731.**—F. GILMAN, Minneapolis, Minn.—*Coal Stove.*—September 10, 1867; antedated September 4, 1867.—The stove is so constructed that a series of vertical, open-ended air pipes completely surround the fire chamber.

*Claim.*—First, constructing the side and end plates of a stove, in two parts each, in such a manner that when the parts are put together air tubes or apertures shall be found between them substantially as herein described.

Second, the construction and arrangement of the perforated top and bottom plates, and channeled or corrugated side plates as herein set forth for the purpose specified.

Third, the sunken ash-pit and the grate, in combination with a heating stove, constructed and arranged substantially as shown and described.

**68,732.**—FRANKLIN A. GLEASON, Brooklyn, N. Y.—*Clothes Wringer.*—September 10, 1867; antedated August 31, 1867.—The opposite ends of the rollers have cranks standing angularly in respect to each other, and at each end the two rollers have connecting links to a single oscillating bar to insure equal rotation, while allowing vertical variation in distance.

*Claim.*—The particular construction and operation of the cranks  $a$   $a$  and their couplings  $b$   $b$ , as connected with the perpendicular bar  $c$ , and in combination therewith the lever C and its cam D, all substantially as herein specified.

**68,733.**—G. L. GRANT, Rockville, Conn.—*Steam Engine Valve.*—September 10, 1867.—The valve stem is constructed in two pieces. The inner section is screwed into the outer conical section. The pressure of steam forces the conical stem against the shell, and obviates the use of packing.

*Claim.*—The arrangement of the lugs  $a$  and  $b$ , when the same are made and operating substantially as and for the purpose herein shown and described.

**68,734.**—JOHN GRAY, Milwaukee, Wis.—*Ice Cream Freezer.*—September 10, 1867.—The horizontal cylinder rotates in an ice box, and the cream is pressed against the side by a roller on a frame, pivoted at its midlength to a bar, which is hinged at the further end, and supported by an adjustable spring. The bar passes through the end of the cylinder and box. The gatherer has staples, which are placed on guide pins, so as to allow free vertical motion to the said gatherer, which enters the aperture through the cylinder end.

*Claim.*—First, the combination with the rotating cylinder B and outer box or case, containing frigorific mixture, of a roller E, arranged for operation within the cylinder, substantially as and for the purpose herein set forth.

Second, suspending the roller F in a free or adjustable manner by a socketed support of the same for adjustment of the latter relatively to the interior of the rotating cylinder B, essentially as specified.

Third, the combination of the roller F and its frame with the bar H, supported by a spring, the tension of which may be regulated by a screw for operation in connection with a rotating freezing cylinder, substantially as herein set forth.

Fourth, the gatherer L, constructed and applied for action within cylinder B by means of outside guides, on or down which said gatherer is allowed to freely slide, essentially as and for the purpose specified.

**68,735.**—JAMES GREENHALGH, Jr., Glendale, R. I.—*Clothes Dryer.*—September 10, 1867.—The wings project radially from a central post and their horizontal bars are jointed so as to be self-supporting and admit of folding in to reduce the horse to within a small compass.

*Claim.*—Making the horizontal bars B of the drying frames in two pieces, hinged at the center, and hinged at their ends to the central post A, and vertical bars C of the said frames, substantially as herein shown and described and for the purpose set forth.

**68,736.**—EDWIN F. GUNN, Charleston, S. C.—*Breech-loading Fire-arm.*—September 10, 1867.—The breech block is hinged so as to swing out sideways and is operated by a lever whose projection enters into an aperture of the case to act as a detent when the gun is charged. Another projection on the lever slides the shell extractor. The hammer acts through a spring needle pin.

*Claim.*—The lever F and sliding retractor  $d$ , arranged in combination with the laterally swinging chambered breech block D, all constructed and operating substantially as herein described for the purpose set forth.

**68,737.**—JOHN HAGGERTY, East Springfield, Pa.—*Cock Eye.*—September 10, 1867.—After the frame is placed over the trace pin the spring bolt closes and maintains the engagement.

*Claim.*—First, the spring bolt B, set in the bed A, and in combination with it in manner and for the purposes as above set forth and described.

Second, the bed A, bolt B, spring  $b$ , and plate C, or its equivalent, forming together a spring cock eye, all substantially as and for the purposes above set forth and described.

**68,738.**—W. HAILES and P. FINKLE, Albany, N. Y., assignors to PETER FINKLE.—*Dampers for Stove Pipes.*—September 10, 1867.—The draft is regulated by the oblique wings of the damper, the counteracting currents through which act as a counterpoise to each other.

*Claim.*—The construction and application of a damper in the form of a wind wheel, with oblique wings fitted to revolve within the pipe flue or chimney of a stove or furnace, substantially as described and for the purposes set forth.

**68,739.**—HORACE HARRIS, Newark, N. J.—*Mosquito Guard.*—September 10, 1867; antedated September 7, 1867.—One circle of the wire fits upon the head and is secured by a chin strap. The other portion of the frame elevates the gauze covering.

*Claim.*—Frame A, made of wire or other equivalent material, secured to the top of the head by the strings B B or otherwise, and the projection C in front in combination with the netting D, substantially in the manner and for the purpose specified.

**68,740.**—THOS. B. HARRISON, Maquoketa, Iowa.—*Power Hammer.*—September 10, 1867.—When motion is communicated to the crank the connecting rod raises the spring box and compresses the lower spring against the piston and thereby lifts the piston rod and hammer and forces the piston to the top of the air cylinder. The force of the blow is adjusted by the cut-off valve that regulates the escape of the air.

*Claim.*—First, the cut-off valve D, consisting of the plug H, shell U, and casing J, in combination with the air cylinder Y, arranged and operating as described.

Second, the combination of the spring box S, spiral springs, piston T, and rubber springs C C, arranged and operating as described.

Third, the combination of the fixed air cylinder Y, with the piston rod A, spring box S, forked connecting rod and crank P, constructed and operated substantially as described.

**68,741.**—CHRISTOPHER HERRSCHAFT, Brooklyn, N. Y.—*Feed Regulator for Spinning Machines.*—September 10, 1867.—A clutch mechanism, under control of the drawing rolls, is combined with wheels of different diameters on a primary and secondary shaft to vary the velocity of the gill bars to suit variations in the thickness of the sliver.

*Claim.*—First, the combination, with a clutch or



other mechanism, controlled by the drawing rolls, and serving to throw in or out of gear with the driving shaft C, wheels or pinions F F' of the secondary or gill bar operating shaft H, having gear G G', the one of which is connected with its shaft by pawl and ratchet L K, for operation in connection with the gear of the driving shaft C, to give a fast or slow motion to the gill bars, substantially as specified.

Second, the combination of the fast wheel G and loose wheel G', with its pawl and ratchet L K, loose wheel and pinion F F', with their clutches E E', D D', and clutch arms, or levers I I', so arranged and operated by mechanism connected with the drawing rolls as that the one lever may be acted upon in advance of the other, or both, simultaneously, essentially as herein set forth.

**68,742.**—GIBBONS G. HICKMAN, Coatesville, Pa.—*Washer for Bolts.*—September 10, 1867; antedated September 7, 1867.—Imbedded in the face of the washer is a spring hook, which by engagement with the edge of the nut prevents its becoming unscrewed until the spring is depressed.

*Claim.*—The washer B, provided with a spring recessed in its face, and operating substantially as described.

A metal washer, made in two separate pieces, the lower one provided with a spring, as described, and the upper one turning with the nut and retained by the spring, as described and represented.

**68,743.**—GEORGE HILGAR, Brownington, Pa.—*Sheep Shears.*—September 10, 1867.—The central blade is pivoted to one of the main blades, and its slotted shank is pivoted to an oscillating lever, which has its fulcrum on a stud from the side bar, and has a slotted connection to a pivot on the other main blade.

*Claim.*—The manner herein shown and described of attaching the central cutter I to and connecting it with the ordinary cutters D and E by means of the pin d, lever G, and stud F, or its equivalent, all made as set forth.

**68,744.**—J. P. HOAGLAND and GEORGE E. MOSE, Centralia, Pa.—*Combined Corn Sheller and Fanning Mill.*—September 10, 1867.—The ear is pressed by the inclined hopper against the rotating ribbed disk and falls into the hopper of the fan mill. The cobs and grain are delivered separately.

*Claim.*—First, the sheller formed by the combination and arrangement of the stationary sheller plate I, sheller wheel H, and hopper or chute J, with each other, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the sheller wheel H, shaft F, fly wheel G, cog wheel E, cog wheel D, shaft B, drive or crank wheel A, band P, pulley R, and fan shaft S, with each other, for the purpose of operating the sheller and fan by the same power, substantially as herein shown and described.

**68,745.**—GEORGE W. and ELISHA HOPKINS, Brooklyn, N. Y.—*Valve for Steam Engines.*—September 10, 1867.—Improvement on their patent August 28, 1866. The engine piston acts directly upon a shifter which operates in connection with a balance valve and suitable ports to alternate the induction of spent steam from the engine cylinder to opposite sides of a supplementary piston that serves to work independent slides which govern the main ports.

*Claim.*—First, the combination with a shifter F, operated as described, of a valve H, in gear with the shifter for controlling the throw of the main valve or valves, as herein set forth.

Second, the shifter F, driven as specified, valve H, operated thereby, piston J, or its equivalent, and independent main valves K K', with their several ports or passages, all for operation together, essentially as described.

**68,746.**—J. C. HORTON, New York, N. Y., and S. K. HAWKINS, Lansingburg, N. Y.—*Meters and Meter Valves.*—September 10, 1867.—Improvement on their patent April 2, 1867. Each end of the cylinder has a conical valve whose arms, standing rectangularly to the stems, are connected by a bar. The valves have openings connecting with the induction and eduction pipes and the cylinder. The connecting bar has a stud traversing alternately side grooves in

a plate reciprocated by the piston rod. The arms are transferred at the ends of the strokes from one groove to the other by spring arms, and operate to alternately receive and exhaust from each end of the cylinder. The reciprocations are registered on a dial.

*Claim.*—First, in combination with a measuring cylinder and reciprocating piston, the hollow oscillating valves so constructed as to operate alternately as induction and eduction valves, substantially as described.

Second, the reciprocating grooved plate F, in combination with the oscillating valve, arms J, bar K, stud K', and the levers and spring by which said stud is thrown from one groove to the other, substantially as described.

Third, the reciprocating grooved plate F, in combination with the stud K', and the levers and spring by which said stud is thrown from one groove to the other, substantially as described, as a means of operating oscillating valves.

Fourth, the hollow oscillating valve V, with its single port V', so constructed as to operate alternately as an induction or eduction valve, to regulate the flow of any kind of liquids or fluids, substantially as described.

**68,747.**—SAMUEL W. HUDSON, Packer township, Pa.—*Steam Engine.*—September 10, 1867.—The steam ports in the cylinder expand longitudinally toward the ends of the cylinder, so as to allow a gradually increasing opening as the piston leaves the end, and a gradually decreasing passage as the piston approaches the end; in the former case causing a gradually accelerating motion, and in the latter enshioning the piston at the end of the stroke. The pressure of steam on the side of the piston from the port is balanced by a similar cavity on the opposite side. The packing rings are sprung into the grooves and retained by the inward flanges of the rings in the grooves. The peripheries of the rings extend the whole length of the piston to avail the whole extent of the steam ports.

*Claim.*—First, the cylinder, provided with tapering steam openings, for the purpose and substantially as described.

Second, the cylinder provided with the depression in the side opposite to the triangular steam opening, substantially as and for the purpose described.

Third, the piston, provided with the rings F, having flanges imbedded in grooves of the piston head, and with their peripheries extending to the ends of the piston, as and for the purpose described.

**68,748.**—SAMUEL W. HUDSON, Beaver Meadow, Pa.—*Steam Engine.*—September 10, 1867.—The steam ports are lengthened on the inner side, so that the piston will gradually close the port and form a limited steam cushion, though permitting free escape to the steam through nearly the entire stroke.

*Claim.*—First, the narrow steam openings E E, arranged lengthwise on the interior surface of the cylinder, so as to be gradually uncovered by the motion of the steam piston, as herein described.

Second, a vertically oblique wall or side e, to the steam port, to adapt the steam passage, to enlarge in an increasing ratio as said passage is opened by the piston for the admission of steam to the cylinder, substantially as described.

**68,749.**—ALMON HUNT, Macomb, Ill.—*Cornstalk Cutter.*—September 10, 1867.—The horizontal knife cuts or breaks down the cornstalks; these are gathered by the rake teeth into a position transverse to the line of motion and are cut by the spirally-set knives.

*Claim.*—First, the frame A, provided with the plate H, arranged substantially as described, for the purpose of cutting, breaking, or bending down the stalks as set forth.

Second, the combination of the stationary curved hooks or blades E with the movable blades d, the latter being operated by the motion of the machine, said parts being constructed and arranged for joint operation, substantially as described.

**68,750.**—ALBERT JACKSON, Clifton Springs, N. Y.—*Lifting Jack.*—September 10, 1867.—The lever is journaled in the standard and its eccentric raises the movable bar, which it sustains when the lever is depressed to the full extent.



*Claim.*—A lifting jack, composed of the uprights A A, base B, slide E, and the lever C, provided with the eccentric D, all being combined and arranged to operate in the manner substantially as and for the purpose set forth.

**68,751.**—T. B. JAMES, Muscatine City, Iowa.—*Window Shade.*—September 10, 1867.—The square prisms are woven with a warp of threads which form the cords of suspension.

*Claim.*—Constructing window shades with quadrilateral prismatic sticks A, arranged and woven together, substantially as set forth.

**68,752.**—W. KIMBLE, Salem, Ohio.—*Gate Fastening.*—September 10, 1867.—The metallic latch extends across the upper part of the gate and is pivoted to the upper cross-bar of the frame. It latches into a catch at the back end when the gate is closed and is held by a spring. The gate may be opened on turning the latch knob.

*Claim.*—The arrangement of the long latch b, in combination with the handles e e, and the spring h, for fastening a gate by catching in the hook g placed on the heel post B, substantially as herein described.

**68,753.**—A. H. KNAPP, Newton Center, Mass.—*Water Elevator.*—September 10, 1867.—The buckets are raised from the well on endless chains that engage with the sprocket wheels above, which are actuated by the crank.

*Claim.*—First, the two sprocket wheels, or pairs of sprocket wheels C D, situated on different shafts at equal heights, and at sufficient distance apart to allow the water to be discharged between them into the reservoir or spout beneath, when arranged in relation to the buckets or cups in clusters, substantially as and for the purpose herein specified.

Second, the arrangement of the buckets or cups in two clusters or groups, on opposite parts of the chain, the remaining portions of the chain being without buckets or cups, substantially as and for the purpose herein set forth.

Third, the arrangement of the side gearing p r s t at the main shaft E, in combination with the coupling n and shifting device l m, or the equivalents thereof, for the purpose herein set forth.

Fourth, the chain guides j k o separately or together as arranged in relation to the chain and buckets or cups, substantially as and for the purposes herein specified.

Fifth, the chain A, the wheels C D, and the cross-bars of the link extending across and resting in notches v v of the wheels, all arranged as set forth.

Sixth, the buckets or cups held by the bent links e e, and so arranged that their centers are nearly opposite to the joints between the links, substantially as and for the purpose herein specified.

Seventh, the buckets or cups, with notches or indentations in the bottoms, in combination with the bent links, for the purpose set forth.

Eighth, the guide wires or rods g g, which pass around and wire one-half of the edges of the several buckets or cups, and clasp the middles of the supporting links, the links being bent at the joints therewith, substantially as and for the purpose herein set forth.

Ninth, the open spaces w w in the edges of the wheels, intermediate between the chain-bearing notches v v, for the purpose herein set forth.

Tenth, the suspended buckets or cups, with flattened inner edges, as arranged upon the wheel or wheels, substantially as and for the purpose herein set forth.

**68,754.**—GEORGE H. KNIGHT, Cincinnati, Ohio.—*Mechanical Movement or Substitute for Cog Wheels.*—September 10, 1867.—The object is to produce equal and opposite rotation of two shafts without noise. Each shaft has a crank, and also at right angles thereto another crank. There are two equal arms united by pivots to the frame, and by other pivots to a link, whose middle is connected by equal pitmen to the cranks. The above movement is duplicated for the other two cranks.

*Claim.*—First, the mode of producing corresponding opposite rotations of two shafts, pistons, or rollers, by equal connection, to a stud or link restricted to a rectilinear path, substantially as set forth.

Second, securing corresponding opposite rotation

of two shafts or other objects by eccentric wrists B B', connected by pitmen I I' i i' to studs H h, guided to vertical paths by links G g and arms C C' c c', substantially as set forth.

**68,755.**—HINRICK KNIPHALS, Davenport, Iowa.—*Plow Point.*—September 10, 1867.—The point is placed on the broken part and fixed by screws.

*Claim.*—First, the application of a hollow iron or steel point C to a plow from which the point is worn away by use, to restore the proper form.

Second, the hollow point C applied to a plow which is broken or breaking apart at the point not only to restore its true form, but also to bind the parts together firmly, at the same time covering the break and presenting a smooth surface to the earth, which slides over it.

**68,756.**—E. F. LACY, Danville, Ill., assignor to himself and S. D. THOMPSON, same place.—*Trace Buckle.*—September 10, 1867.—Improvement on the patent of A. H. Cole, October 10, 1865.—The wedge has a clasp and spring to prevent its separation from the buckle and prevent the working forward of the trace strap when it is slack.

*Claim.*—The clasp, in combination with the wedge having a tongue, substantially as and for the purpose described.

Also, the spring, or its equivalent, in combination with the above, substantially as and for the purpose specified.

**68,757.**—COOK C. LAWRENCE, Homer, Mich.—*Thill Coupling.*—September 10, 1867.—The two plates of the thill iron, when bolted together, form a socket for engaging the pin at the end of the axle clip.

*Claim.*—The plates g g', provided with disk segments e e', in combination with the slotted clip plate b, constructed and operating substantially as herein described.

**68,758.**—LEONHARD LEGRAN, Allegheny City, Pa.—*Artificial Leg.*—September 10, 1867.—The flaps and pads adapt the leg to the varied conditions of the stump. By a series of spring bands and cords the required tension and flexion is given to the leg and foot.

*Claim.*—The arrange of the toe springs l m and n, hinge 14, elastic bands 5 and 6, cords w and y, cross-pieces 8 and 9, and check cord 11, when used in connection with the leg A and foot C, the whole being constructed, arranged, and operating substantially as herein described and for the purpose specified.

**68,759.**—VOLNEY LEONARD, Springfield, Pa.—*Beehive.*—September 10, 1867.—The trap has a glass top for observation and a hinged supplementary cover. The trap is set at the entrance to the hive, and notched slides regulate the passage of the bees. The entrance slide allows the queen and workers to enter, but under the escape slide the workers alone can pass. When the queen enters the slide is dropped behind her.

*Claim.*—A trap for catching queen bees during the time of swarming, composed of a shallow box provided with slides and a glass in the top, all arranged substantially as herein set forth.

**68,760.**—CHARLES E. LIPE, Fort Plain, N. Y.—*Corn Dropper.*—September 10, 1867.—The slide that regulates the discharge of seed from the pocket is vibrated by a spring or secured in position by a set screw.

*Claim.*—The strap H and roller I, in combination with the handle F and seed slide B, all being arranged and applied to a box or seed receptacle A, provided with a cut-off brush D, or its equivalents, to operate in the manner substantially as and for the purpose set forth.

**68,761.**—N. M. LURTON, Newbern, Ill.—*Grain Measure.*—September 10, 1867.—The box into which the grain is delivered has a rotating wheel and indicator at top and a slide below with a measure attached.

*Claim.*—First, the receiving box or hopper A and the measuring box B, arranged substantially as described, in combination with the revolving wheel C,



the pointer *f*, and the screen *E*, when used for the purposes specified.

Second, the indicating wheel *C* and pointer *f*, as and for the purposes described, in combination with the boxes *A* and *B*.

**68,762.**—JUSTUS R. LUTHER, Berlin, Wis.—*Machine for Rolling Whips*.—September 10, 1867.—The whip or lashes are laid lengthwise on the table parallel to each other, at right angles with and beneath the rolling block, and attached by cords and hooks to the large and small pulleys. The rolling block is actuated by the pitman, the said block acting to press on and roll the whips. The whips are paid out by the large rollers and taken up by the smaller rollers.

*Claim.*—First, the application of a pitman, driven by steam or other power to a block for rolling whip lashes, moving at right angles with the lash, substantially as specified.

Second, the application of inclined planes at each end of the block for rolling whip lashes to the elevating rollers *n n*, or any equivalent device, so as to lift the block and allow the lashes to slide substantially as specified.

Third, the combination of the pitman *v*, rolling block *m*, rollers *n n*, driving post *p*, main lever *u*, hand bar *i*, hands *x x*, ratchet wheels *s s*, and small pulleys *e e*, so as to roll the lashes and slide them under the rolling block.

**68,763.**—J. C. LYONS, New York, N. Y.—*Fog Alarm*.—September 10, 1867.—A double action air pump is connected through a flexible pipe and expandible chamber with a whistle.

*Claim.*—In combination with an air pump and whistle, as set forth, a flexible and elastic air chamber or reservoir for the purposes set forth.

Also, the reservoir constructed with the head blocks *F G*, rods *H H*, and covering *C*, in combination with the whistle *A* and pump *B*, substantially as set forth.

Also, covering the flexible tube connection with short sections of metallic tubing, as and for the purpose set forth.

**68,764.**—CHARLES MAHAN, Grand Island, Cal.—*Hoe*.—September 10, 1867.—The blade and shank are of one piece, bent nearly rectangularly, and sharpened at both edges and the end.

*Claim.*—A hoe constructed as herein described as a new article of manufacture.

**68,765.**—JOHN MARSHALL, Hartland, Mich.—*Eaves Trough Bracket*.—September 10, 1867.—The vertical and horizontal bars are riveted together and to the trough, and are attached to the wall of the house. A strap from the roof engages the rim of the trough.

*Claim.*—The brackets *D* and *E*, combination with the strap *H* and the strap *K*, folding over the trough and securing it to the roof, substantially as and for the purpose described.

**68,766.**—CHELTON MATHENY, Greensburg, Ind.—*Convertible Wagon Seat, Manger, and Tail Board*.—September 10, 1867.—The seat has side pieces and to these are attached a back piece, which is adjustable for the purposes stated.

*Claim.*—The wagon seat convertible into a manger or into a tail-board, substantially as set forth.

**68,767.**—C. B. MCKINNEY, Houston, Ohio.—*Flood Gate*.—September 10, 1867.—The posts are attached to sills buried in the ground parallel to the current, and form guides for the gate, which is raised by pressure of the stream against the oblique-faced lower bar.

*Claim.*—A flood gate having the float *d*, composed of the flat platform *d'*, and the inclined side piece *d''*, firmly fixed to each other, and the float thus constructed being firmly bolted to the bottom of the gate, substantially as and for the purpose specified.

**68,768.**—WILLIAM S. MCKINNEY, Cincinnati, Ohio.—*Shaft Coupling*.—September 10, 1867.—The collars have counterpart segmental projections and cavities, and are held together by a sleeve, which screws on one collar and engages the other by an inclined flange.

*Claim.*—The combination of the screw threaded and lipped sleeve *D* with the screw threaded clutch *B*, and plain clutch *C*, as and for the purpose herein described and represented.

**68,769.**—JOSIAH F. MELCHER, Bloomington, Ill.—*Washing Machine*.—September 10, 1867.—The rubber has four radial wings. It is geared by a spur pinion with the outside or inside gear of the motive wheel, whose arbor is inserted into either one of two sockets in the lid to bring either gear into connection.

*Claim.*—First, the double spurred wheel *D*, constructed with arched spokes for receiving the pinion *G*, and also with radial arms or handles *D'*, substantially as described.

Second, the combination of the batten *C*, provided with holes *a a'*, with the cover *B*, and with double spurred master wheel *D*, pinion *G*, and a vertical rotary rubbing device, substantially as described.

Third, the construction of the rotary rubbing device of bars *d d*, blades *g g*, and a U-shaped device *J*, substantially as described.

**68,770.**—GEORGE H. MELLEN, Alexandria, Va.—*Composition for Elastic Hand Stamps*.—September 10, 1867.—Composed of glue, 4 pounds; glycerine, 2 pounds; fixed oil, 1 pound; barytes, 1 pound; chloride of calcium, 4 ounces; plumbago, 1 pound; plaster of paris, 6 ounces. The composition is poured while hot into plaster of paris molds, which have been previously dried, oiled, and heated.

*Claim.*—First, the combination of the above named ingredients to form, when boiled, a new and useful composition of matter for the purpose above specified, substantially as described.

Second, the method of casting said composition when boiled, substantially as described.

**68,771.**—CHARLES MEMMERT, Georgetown, D. C.—*Wardrobe Trunk*.—September 10, 1867.—The lid is raised upon the sectional pieces which rest upon the body of the trunk. The doors swing on their hinges, and the whole forms a wardrobe. The parts are detachable, and pack within the trunk for transportation.

*Claim.*—First, the pieces *D* and *E*, in combination with a trunk, applied and operating substantially as described.

Second, the wardrobe trunk, consisting of the body *A*, lid *B*, rim *C*, pieces *D E*, tray *f*, and cover *g*, all applied and operating substantially as described.

Third, in combination with the above the metal rim *C*, forming the bearing for the pieces *D E*, and doors *f g*, substantially as described.

**68,772.**—SAMUEL W. MEREDITH and DAVID MULLIGAN, Greensburg, Ind.—*Extension Bed for Farm Wagons*.—September 10, 1867.—An extension is hinged to the box bottom behind the tail board. It is arranged to fold up to the box and has side boards hinged to it, which are folded to the extension when in its elevated position.

*Claim.*—In combination with a wagon bed *A* a folding tail piece *C*, permanently attached thereto by hinges *C'*, and the side boards *D* hinged to the tail piece *C*, substantially as and for the purpose set forth.

Second, the combination and arrangement of the bed *A*, hinged tail piece *C*, with sides *D* hinged thereto, segment *E*, and staples *F*, substantially as and for the purposes set forth.

Third, the combination and arrangement of the tail piece with hinged sides, the wagon bed and the spring catches *I*, substantially as and for the purpose set forth.

**68,773.**—G. W. MILES, Michigan City, Ind., assignor to HOSLER, MILES & Co., same place.—*Machine for Driving Spokes in Wagon Wheels*.—September 10, 1867.—The revolving hammer has its axis on an oscillating frame, which is moved by a cam on the said axis. The object is to throw the hammer forward to deliver its blow and retract it to clear the spoke, during which clearance the pinion runs back on the driving wheel.

*Claim.*—The combination of the rotating shaft *P*, having the hammer attached thereto, with the vibrating frame *N*, eccentric *Q*, and post *T*, or its equivalent, when arranged to operate substantially as described.



**68,774.**—R. E. MILES, Louisville, Ky.—*Attachment for Breast Collars.*—September 10, 1867.—The curved plate is attached to the breast collar and has loops for attachment of the supporting straps and martingale, and a triangular link for the breast strap.

*Claim.*—A plate provided with the loops and applied to a breast collar, substantially in the manner and for the purpose set forth.

**68,775.**—CHARLES G. MILLER, Springfield, Ohio.—*Harvester.*—September 10, 1867.—The crank shaft, driving pinion, and cutting apparatus are so attached to a plate centered on the end of the main axle that the cutter bar can be set to cut at different elevations, or accommodate itself to inequalities of the ground without changing the inclination of the frame. The rake is connected alternately to the upper and under sides of the transverse endless chain to cause its reciprocation. The tongue is pivoted to the frame and may be rendered rigid by a key and stop. The gavel is delivered behind the driver by a fly.

*Claim.*—First, the combination of the plate M, block S, and arm Q, substantially as and for the purpose set forth.

Second, mounting the cutters, crank shaft, and driving pinion upon the coupling plate M, as and for the purpose set forth.

Third, the carriage *p*, in combination with the rod K, bar I, and endless chain L, all constructed as set forth.

Fourth, the combination of the rake arm *o*, shifter *q*, weighted lever *r*, and latch *u*, to change the connection from one part of the chain L to the opposite, and thereby reverse the motion of the rake, substantially as set forth.

Fifth, the combination of the rake arm *o* with the curved arm *v*, the notched bar I, rod K, carriage *p*, and the spring bar *w*, all constructed as and for the purpose set forth.

Sixth, the open head reel N, constructed with jointed arms and adjustable jointed blades, in the manner set forth, so as to permit the attendant to expand the same, for the purpose of making it sweep nearer to or further from the platform and cutters, as set forth.

Seventh, the movable head *h*, connected to the reel arms by short arms *i*, and moved back and forth by the pinion *k* and rack *l*, as and for the purpose set forth.

Eighth, the bolt *e'*, with the nut *g'*, in combination with the hinged tongue C and pin *h'*, substantially as and for the purpose set forth.

Ninth, making the nut *g'* with an angular portion and a cylindrical portion, so that the wrench *k'* may be shifted thereon without removing it entirely from the nut.

**68,776.**—ISRAEL MILLER, Bryan, Ohio.—*Device for Setting Animal Traps.*—September 10, 1867.—The inverted box rests with one edge on the ground and the other standard on the beveled edge of the bait rod, on the point of which the bait is attached.

*Claim.*—First, the shaft A, furnished with the flange *a*, or its equivalent, in combination with the baiting rod B, substantially as described.

Second, the cap D, in combination with a flanged shaft A, or its equivalent, substantially as shown and described.

**68,777.**—HORATIO MINUSE, Milan, Ohio.—*Carriage Plow.*—September 10, 1867.—The plow is adjustably attached to the wheel frame, and the depth of furrow is regulated by levers and connections.

*Claim.*—The special arrangement and combination of the herein described plow and carriage, when operated in the manner and for the purpose substantially as set forth.

**68,778.**—FOSTER NEVERGOLD and DAVID BROSEY, Pittsburg, Pa.—*Shaft Coupling.*—September 10, 1867.—The boxes on the shafting are clutched by the motion of one lever and unclutched by the motion of either of four levers, or by an automatic arrangement.

*Claim.*—First, the combination of boxes C C', when both are constructed and arranged as and for the purpose set forth.

Second, the combination of sliding block *d* with levers *h k*, substantially in the manner set forth.

Third, the lever *k* in combination with coupling block C', as and for the purpose described.

Fourth, coupling box C C', sliding block *d*, levers *h k* and *f*, all combined as and for the purpose specified.

**68,779.**—G. W. NICHOLS, Chicago, Ill.—*Total Insulation of Telegraph Lines and Apparatus.*—September 10, 1867.—The leading wires, the magnet, the battery, the vibrating armature, &c., &c., are surrounded by gutta-percha to isolate them from atmospheric influences.

*Claim.*—First, surrounding or covering the various parts of telegraph apparatus, as specified and set forth, with an insulating substance, as and for the purposes specified.

Second, the insulation of the interior of the battery cup A, substantially as described and set forth.

Third, the covering of the outer surface of the battery, when not made of an insulating substance, with gutta-percha, or other suitable insulating material.

Fourth, the total insulation of the entire telegraph circuit, for the purposes specified and set forth.

Fifth, the insulation of the relay magnet, substantially in the manner specified.

**68,780.**—RICHARD NICKSON, Akron, Ohio.—*Carriage Joint.*—September 10, 1867.—The pressure of the spring friction block upon the fixed portion of the carriage joint balances the downward tendency of the top when thrown back.

*Claim.*—First, the combination of the spring friction block C with the joint, substantially as and for the purpose specified.

Second, the hinged piece *a* and spring catch *b* in combination with the spring friction block C and the fixed friction piece B and the bar A, substantially as and for the purpose specified.

**68,781.**—HENRY S. NORTH, Middletown, Conn., assignor to himself and W. and B. DOUGLAS, same place.—*Snap Hook.*—September 10, 1867.—The extended shank of the movable jaw is locked shut by a spring bolt, the spring bearing upon a shoulder on the jaw to assist in closing.

*Claim.*—First a snap hook having the rear end of the movable jaw extended beyond the axis or joint in combination with a bolt, substantially as and for the purpose described.

Second, in snap hooks a movable jaw so constructed as to form a bearing for a spring arranged within the fixed jaw, substantially as described and for the purpose specified.

Third, a snap hook provided with a bolt for locking its movable arm or jaw when such hook is so constructed and a spring is so arranged as to both throw said bolt and to close the movable jaw.

Fourth, a bolt so arranged in combination with so constructing a snap hook that it can be either secured in a position out of action or fastened when locked in the movable jaw or both, substantially as described.

**68,782.**—H. OLDS, Syracuse, N. Y.—*Slide for Extension Tables.*—September 10, 1867.—The wings of the cruciform slide project into the adjacent bars. A stop bolt in connection with inclined planes limits the motion in either direction.

*Claim.*—First, the combination of the stay pins C, the cross-shaped slides A and slide bars B, substantially as and for the purpose specified.

Second, the combination of the stop bolt D, coiled spring E, and inclined groove or grooves F with the sliding bars B, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the key G with the stop bolt D, coiled spring E and groove F, substantially as herein shown and described and for the purpose set forth.

**68,783.**—CHARLES R. and NORTON P. OTIS, Yonkers, N. Y.—*Valve for Steam Engines.*—September 10, 1867.—The two steam cylinders work coincidentally the chambers in which the piston valves reciprocate, being connected by a steam pipe, a branch from which leads to the chamber where the reversing valve is situated.



*Claim.*—The valves and passages essentially as herein shown and described, consisting of the main piston valves F F' with their passages *f f' e h i*, and induction and eduction passages *a* and *b* within the valve chest D, in combination with an outside reversing valve H, arranged for operation together substantially as specified.

**68,784.**—IRA A. PALMER, Monmouth, Ill.—*Cultivator*.—September 10, 1867.—The double shovel plows are attached by a universal joint to the wheeled carriage, which straddles the row. The plows are sustained in a position clear of the ground by hooks which engage a bar on the carriage.

*Claim.*—First, the construction of the frame A D C B, substantially as described and for the purpose set forth.

Second, the adjustable hook *z*, as arranged and for the purpose described.

Third, the jaws P P, knuckle *r'' p''*, adjustable pin *a'' l''*, and plates T, constructed and arranged as described and for the purpose set forth.

**68,785.**—HENRY PETERSON, Chicago, Ill.—*Cigar Gauge and Butt Cutter*.—September 10, 1867.—The adjustable gauge determines the length of the cigar and the knife butts it off at the same time, cutting in two the piece removed.

*Claim.*—First, the double knife H, arranged and constructed as described, in combination with the lever G, standards E and K, and spring L, the whole arranged and operating substantially as and in the manner herein set forth.

Second, the combination of the double knife H with the slotted trough C and the slide D, the whole arranged substantially as and in the manner herein described and for the purpose specified.

**68,786.**—MARTIAL PIDAULT and G. ELIEZE DIT LAGIEZE, Paris, France, assignors to themselves and J. F. GEVELOT, same place.—*Breech-loading Fire Arm*.—September 10, 1867.—The chamber slides back longitudinally along the barrel to leave an open space for the insertion of the cartridge, the hammer being cocked by the same motion and retained until the breech is closed. The oscillating key has a slot which acts upon a stud on the breech to give the rectilinear motions thereto.

*Claim.*—First, the combination and arrangement of the stationary socket D, sliding chamber A, with pin *a* and the hinged lever E, substantially as described for the purpose specified.

Second, the stationary tube or socket D, arranged within the sliding chamber A to serve as a breech piece, substantially as herein shown and described.

Third, the combination of the hammer G with the catch H on the trigger, and with the springs R and R', all made and operating substantially as herein shown and described.

Fourth, the combination and arrangement of the slotted sliding rod K, pin *l*, socket D, and sliding chamber A, substantially as described for the purpose specified.

**68,787.**—C. T. POULTON, Danboro', Pa.—*Wrench*.—September 10, 1867.—The crank, connecting by the bevel wheel to the pinion of the sleeve, actuates the tongs of the wrench.

*Claim.*—The combination of the wrench E, revolving sleeve D, spindle A, all constructed and arranged substantially as and for the purposes set forth.

**68,788.**—E. L. PRATT, Boston, Mass.—*Apparatus for Aerating Liquids*.—September 10, 1867.—The concave solid plunger works in a cylinder that is perforated near the bottom, and the liquid in the vessel is aerated thereby.

*Claim.*—In combination with the concave plunger and the convex bottom, the apertures through the vessel, arranged and operating as air passages, substantially as described.

**68,789.**—W. F. QUINBY, Wilmington, Del.—*Flying Apparatus*.—September 10, 1867.—The wings are hinged to the back plate and operated by the arms and hands, with the assistance of the legs and feet, the latter being connected by guys.

*Claim.*—First, the lateral or side and dorsal wings, applied to the person in such a manner as to admit

of said wings being operated by the combined action of the arms and legs, substantially as shown and described.

Second, the means of connecting the lateral or side wings to the person, consisting of the frames and joints, constructed and arranged substantially as shown and described.

**68,790.**—THOMAS D. READ, Aberdeen, Ind.—*Fences*.—September 10, 1867.—The slotted post is wedged in a dovetailed notch in the bed piece, and the panels are coupled by pins that pass through the post into the bars.

*Claim.*—the pins D D, which connect the panels A A at the top, as described, used in combination with the bed pieces B, with their wedges C, in the manner set forth.

**68,791.**—JOHN RICHARDS and WILLIAM H. DOANE, Cincinnati, Ohio, assignors to J. H. FAY & COMPANY, same place.—*Mortising Machine*.—September 10, 1867.—The chisel is reversed automatically, while in motion, by means of an eccentric yoke, cam hook, and pawl, which act upon the reversing gear to move it in alternate directions. The stroke of the treadle is adjusted by a ratchet and pawl. The work is fed by a frictional roller of gum.

*Claim.*—First, the pawl *w*, for adjusting the treadle, arranged and operating substantially as described.

Second, the yoke *d*, and devices *g m r* and *i*, for reversing the chisel, as herein set forth and described.

Third, the roller K, for feeding the stuff to the chisel, operating in the manner and for the purpose described.

**68,792.**—RUFUS D. ROGERS, Cape Elizabeth, Maine.—*Winch*.—September 10, 1867.—By three different arrangements of the gearing the winch is adapted to the weight of the load by gaining power as it loses speed.

*Claim.*—First, the combination and arrangement of the shaft *f*, pawl *p*, ratchet *g*, ratchet *h*, lever *k*, truck *j*, pawl *m*, and gear *i*, with the gear *c*, shaft *b*, and barrel *a*, all as and designed to operate in the manner and for the purposes hereinbefore set forth.

Second, in combination with the shaft *f*, the latch *n*, and its groove on the said shaft, as and for the purposes set forth.

Third, in combination with the shaft *b*, and groove *c*, the latch *d*, as and for the purposes set forth.

Fourth, the combination of the arms *r s*, head *t*, and adjustable bolt *w*, as and for the purposes specified.

**68,793.**—WILLIAM F. ROSSMAN, Hudson, N. Y.—*Milk Strainer*.—September 10, 1867.—The band clasps the upper edge of the bucket and has an attached strainer.

*Claim.*—A strainer of cloth, wire gauze, or any other material attached to an adjustable band A, with breast piece B, and spout C, and all constructed and combined substantially in the manner and for the purpose herein set forth.

**68,794.**—WILLIAM RUNG, New York, N. Y.—*Hoisting Apparatus*.—September 10, 1867.—The endless chain imparts motion to a shaft whose endless screw meshes into a worm wheel mounted on the second shaft. The latter is connected, by differential gearing, with the two shafts of the drums, over which the endless hoisting chain passes.

*Claim.*—First, so arranging the hoisting chain and the device for operating it that two loops are suspended from the latter, in one of which the hook pulley is arranged, the arms of this loop being laid over pulleys on two shafts D and F, which are both revolved with exactly equal velocity and in the same direction, as set forth.

Second, the worm *i*, and worm wheel *j*, in combination with the shafts D E and F, and gear wheels *k l* and *m*, all made and operating substantially as herein shown and described.

Third, providing the case A with folding lids *c* and *d*, substantially as and for the purpose herein shown and described.

Fourth, the guards *r* and *s*, in combination with the grooved pulleys *h* and *n o*, respectively, for the purposes herein shown and described.

Fifth, the projecting lugs L L, when arranged on



the case A of a hoisting apparatus, substantially as and for the purpose herein shown and described.

**68,795.**—CHARLES SCHILLING, Auburn, N. Y.—*Harness Motion for Looms.*—September 10, 1867.—The reverse cranks upon the driving shaft operate the jacks. The large cranks and their connections are substituted for a larger number of small ones, thereby decreasing the friction.

*Claim.*—The combination and arrangement of the sliding plate *g*, adjusting screws *f*, cranks *a a'*, adjustable pitman rods *b b'*, piston rods *e e'*, and standard C, substantially as described for the purpose specified.

**68,796.**—C. SCHEWANER, Keokuk, Iowa.—*Trace Buckle.*—September 10, 1867.—The strap is depressed by the pivoted clamps that maintain its engagement with the stud on the plate.

*Claim.*—The manner substantially as herein described and shown of constructing and arranging the two covered, hinged frames, constituting the buckle, in combination with clamp *g* and holding tongue *e*.

**68,797.**—THOMAS SCOTT, Madison Mills, and JOHN CLARRIDGE, Painesville, Ohio.—*Power Hammer.*—September 10, 1867.—The hammer is elevated by a spring and depressed by a treadle. It has capacity for side adjustment and is reversible on the handle.

*Claim.*—First, the combination, substantially as shown and described, of the clevis *f*, disk *c*, spring *g*, and sleeve *d*, whereby the hammer may be reversed, substantially in the manner set forth.

Second, the arrangement of the several devices for producing the downward and upward stroke and the lateral movement, substantially as herein shown and described.

**68,798.**—LEWIS W. SHAEFFER, West Milton, Ohio.—*Churn.*—September 10, 1867.—One set of wings is placed inside the other, and they rotate in opposite directions.

*Claim.*—The arrangement of the several wings B and C on the arms *r* and *s* with reference to the vessel A, in the manner substantially as and for the purpose specified.

**68,799.**—JOSEPH SHICKEL, Harrisonburg, Va.—*Mill Gearing.*—September 10, 1867.—The pinions have a planetary motion around the central axis meshing into the cogs of the inner circle of the stationary master-wheel and drive the spur wheels upon the pinion of the attaching head shaft, which accelerates the speed of the trundle head.

*Claim.*—The combination of the stationary master-wheel E, the pinions D D D D and F, the spur wheels B B C C, the arms H H, and the whole substantially as above described, for the purpose of increasing the speed of the trundle head in mills and the velocity of burrs.

**68,800.**—WILLIAM H. SHURTLEFF, Providence, R. I.—*Horseshoe.*—September 10, 1867.—The calk fits into a dovetailed socket, which is protected by the shoulders of the calk.

*Claim.*—The combination with a socket in the shoe body of a removable calk, the parts being formed respectively so that the said calk shall lap over and protect the said socket, substantially in the manner herein shown and specified.

**68,801.**—SYLVESTER SMITH, Rockford, Ill., and A. PERSELS, Beloit, Wis.—*Gate.*—September 10, 1867.—A lever frame gives upper hinge bearing for the gate and swings on two radially corrugated disks which retain the frame in any position in which it may be swung around, by cords extending up and down the road and operated by passers. The swinging of the frame unlatches and opens the gate.

*Claim.*—The gate D, lever E, with bearing *e*, spring *s*, strip *o*, yoke *h*, pulley *i*, chain *k*, ropes *l*, pulleys *b'*, and handles *m*, when constructed and arranged as described.

**68,802.**—CAROLINE A. STAPLES, Boston, Mass.—*Dressing Case and Bath Tub.*—September 10, 1867.—The bath tub has a dressing case above and a commode and wash stand on each side.

*Claim.*—A dressing case and bath tub combined, constructed substantially as set forth.

**68,803.**—MORDECAI SWEET, Richland, Ind.—*Cultivator.*—September 10, 1867.—The pivoted shanks are held and elevated by the arms of the rotating shaft, which is actuated by the levers; cross tongue levers adjust the lateral movement.

*Claim.*—The arrangement of the shanks K with the shaft F with its arms, handle and connecting rods, and with the levers M M, substantially as and for the purpose set forth.

**68,804.**—JOHN M. SWIFT, Shelbyville, Ill.—*Gate.*—September 10, 1867.—The gate slides on anti-friction rollers on the frame, and is sustained by cords connecting with off-set posts. The frame and its approaches are graded to allow the passage of wagons.

*Claim.*—First, a combination of road boards 1 1', cross-tie 7, bed pieces 3 3, wheel guides 5 5' 6 6', ground boards 2 2', which I have called passover combination.

Second, the combination with the slide 11 11, the posts 8, 9, and 10, the upper and lower channel guide boards, the channel in which the slide moves, and the upper surface of the cross-tie 7, which I have called the slide and channel combination.

Third, a combination of the two short and two long bulk posts with the two sliding bars 21 21, and the blocks E f E f, which form the orifice for end of slide, which I have called the bulk combination.

Fourth, the combination of the cord 15, the tie knots 16, the cord bed C C, the cord pins d d', the cord block 13, the two eyelets 14 14, the ground posts 17 17', the tie blocks with the slips\*20 20'.

Fifth, the gate combined and constructed as set forth in the specification, description, and drawing.

**68,805.**—JOHN G. TAYLOR, East Bethlehem, Pa.—*Churn.*—September 10, 1867.—The dashers rotate in different directions, being driven by the central axis and the screw shaft respectively. The gearing is secured to a removable frame.

*Claim.*—In a churn, the combination of the adjustable frame K and movable bar A with the detachable dasher E G, having the screw and nut L at the foot of the shaft, the whole being constructed and arranged as herein described.

**68,806.**—A. D. TINGLEY, Adrian, Mich.—*Brakes for Horse Power.*—September 10, 1867.—The shaft descends through the driving wheel, and connects with the levers and shoes to press the latter against the periphery of the wheel.

*Claim.*—First, operating the brakes by a shaft passing down through the center of the drive wheel, substantially as herein shown and described.

Second, the combination of one or more shoes C, arms or levers D, ropes or chains E, and shaft F, with each other and with the drive wheel B, substantially as herein shown and described and for the purpose set forth.

**68,807.**—O. S. TREXLER, Naperville, Ill.—*Ventilating Device for Ceilings and Walls.*—September 10, 1867.—The tube is placed in the ceiling, has a perforated cone inside, and its aperture is closed by a door when required.

*Claim.*—First, the cone B, in combination with the tube A, arranged substantially as shown and described for the purpose set forth.

Second, the adjustable door C, in combination with the tube A and cone B, substantially as and for the purpose specified.

**68,808.**—WELCOME C. TUCKER, Richmond Switch, R. I.—*Wagon Hub.*—September 10, 1867.—The hollow hub has a stationary and a movable flange between which the spokes are clamped. At the outer and inner ends of the hub are annular depressions, which respectively project circular flanges on the arm of the axle and on the nut.

*Claim.*—First, the cup flanges c e on the back and front ends of the wagon hub B, upon which are fitted the corresponding flanges a on the axle A, and n on the nut d, as herein shown and described.

Second, in combination with the above, the stationary collar m and the adjustable collar m' on the hub B, combined and arranged as and for the purpose specified.



**68,809.**—G. L. TURNEY, London, England, assignor to S. A. WARSHAW, New York, N. Y.—*Parting Pins*.—September 10, 1867.—The pins are inserted in rows in the folding leaves, which are enclosed by the cover.

*Claim.*—As a new article of manufacture, a pin book, constructed as described, consisting of the separate leaves B, secured together at one edge C, their outer edges bent over to receive the pins, all enclosed in the cover D, as herein set forth for the purpose specified.

**68,810.**—HIRAM TYLER, Gaines, N. Y.—*Pump*.—September 10, 1867.—The pump has two single-acting pistons, which are effective in their up stroke, alternately forcing the water into a chamber, from whence it passes by a stand pipe to another chamber, which has two valved exit openings.

*Claim.*—First, the construction and arrangement of the receptacle Q<sup>2</sup>, having separate openings R S supported upon the chamber D by the tube P, the double bent valve plate V, swinging upon the support V<sup>2</sup>, and connected by the wire X passing through the tube P, with the operating knob W, as herein set forth for the purpose specified.

Second, the plunger E, constructed as described, consisting of the central elastic packing G, clamped between the prong-shaped plate H and the perforated disk F, as herein set forth for the purpose specified.

**68,811.**—FRANCIS VAN DOREN, Adrian, Mich.—*Skid and Friction Roller*.—September 10, 1867.—The skid traverses on rollers which have their bearings in the runners.

*Claim.*—As an improved article of manufacture, a combined skid and friction roller, made and operating substantially as herein shown and described.

**68,812.**—C. PHILIP WAGNER, New York, N. Y.—*Press*.—September 10, 1867.—The followers are connected to oscillating plates, whose segmental screw gears are engaged by a screw to bring the followers together. The upper follower is adjustable by screws, traversing the beam to which its working rods are connected.

*Claim.*—First, the combination of the screw H, toothed segments I I, toggle joints J J<sup>1</sup>, and platens K L, all being arranged for operation together essentially as herein set forth.

Second, the inner pressing board or plate f, arranged adjustable with relation to the body of the platen, substantially as and for the purpose set forth.

**68,813.**—J. B. WALKER, Elizabeth, Pa.—*Flexible Rammer for Turret Guns*.—September 10, 1867.—The rammer is attached to the monitor turret by a hinge, so as to be lowered into serviceable position when required. It is flexible, so as to recurve and follow the bore when operated by the gearing or chain through a slide working in a slot in the side of the tube.

*Claim.*—First, constructing a rammer with a flexible rod or staff D, when the same is formed and operates substantially as described.

Second, the combination of the tube B, curved grooved plates C C, and rammer rod or staff D, when the same are constructed and combined substantially as above set forth and for the purpose specified.

Third, the tube B, curved grooved plates C C, and rollers e e, when the same are combined and arranged substantially as set forth for the purpose specified.

Fourth, the method shown of operating the rammer rod or staff, whether the same be accomplished by means of hand and pulley wheels, roller and chain or screw, spur and pinion wheels and crank, substantially as described and for the purposes set forth.

Fifth, hinging the rammer to the turret, substantially as described and for the purposes specified.

Sixth, uniting the sections for the rammer rod at the point d' by a ball and socket joint, substantially as described and for the purposes set forth.

**68,814.**—N. B. WALLACE, Fond du Lac, Wis.—*Watch*.—September 10, 1867.—One section of the cup is fastened to the back plate of the watch movement around the center or winding post, and the other section is pressed by the spring against the inside of the back plate of the watch. The object is to exclude dust.

*Claim.*—The two-part cup F for the winding post or other axis of a watch movement, substantially as and for the purpose described.

**68,815.**—SAMUEL WALTON, Ballardvale, Mass.—*Machine for Cutting Files*.—September 10, 1867.—The carriage frame is attached to the bed plate in an inclined position, the carriage with the blank being automatically moved by a feed screw. The hammer is raised by a cam and projected toward the blank by a spring whose tension is regulated by a screw to vary the strength of stroke. Special devices are mentioned in the claims.

*Claim.*—First, the head block A, constructed as shown and described, with one or more sockets 9 9 and grooves 37 and 3, arranged in the manner and for the purpose set forth.

Second, the half-hemisphere ball or balls H, or the equivalent thereof, in combination with the head block A, substantially in the manner and for the purpose set forth.

Third, the shield G, constructed as shown and described, and applied to the carriage, and arranged to slide in the groove made in the half ball H, as and for the purpose specified.

Fourth, the adjustable gibbed inclines S, in combination with and applied to the top of the front stand M, in the manner and for the purpose substantially as described.

Fifth, in combination with the adjustable gibbed inclines, as above described, the hammer k and cutter e, constructed and arranged to operate for the purpose and substantially as described.

Sixth, the combination of the shaft 35 and arms 34, the short rod 33, the adjusting devices E<sup>4</sup> and E<sup>2</sup>, with the lever v and the former W, all arranged to operate substantially as and for the purpose specified.

Seventh, in combination with the parts last above claimed, the cam Y, or a series of like or similar cams, acting against the springs J, in the manner substantially as described, for the purposes specified.

Eighth, in combination with the movable carriage A, and applied to the lever v, the former W and the guide plate x x on the moving carriage, arranged substantially as described.

Ninth, in connection with the head block A, the tongs E and the eccentric shaft y<sup>1</sup>, constructed and arranged for operation substantially as and for the purpose set forth.

Tenth, in combination with the tongs and eccentric shaft, the parallel bars f and the elastic or spring substance d, the nuts g, and rods 9, arranged for operation substantially as and for the purpose specified.

Eleventh, in combination with the parts last above claimed, the double face plate F, in the manner and for the purpose described.

Twelfth, the springs C, bed B, plate F, and rods 9, when combined and arranged as and for the purpose set forth.

Thirteenth, the combination of all the operative parts specified, arranged to operate substantially as and for the purpose or purposes shown and described.

**68,816.**—J. H. WEAVER, Columbus, Ohio.—*Lock and Alarm Attachment for Money Drawers*.—September 10, 1867.—The handle in the secret recess below relieves the spring catch at the rear of the drawer. The forcible withdrawal of the drawer strikes the alarm bell.

*Claim.*—First, the lock, consisting of the spring b, lever d, string f and K, and handle i, all made and operating substantially as herein shown and described.

Second, the combination of the lock, when made as herein shown and described, with the bell C or other alarm, substantially as set forth.

Third, the swinging lid l and catches n and o, in combination with the aforesaid lock, and made and operating substantially as herein shown and described.

**68,817.**—MOSES D. WEBBER, Woodbury, Vt.—*Washing Machine*.—September 10, 1867.—The two oscillating plungers are connected to opposite ends of the operating lever so that they alternate in forcing the clothes against the ribbed side of the suds box.

*Claim.*—The combination of the lever D, connecting bars E, and pivoted beaters F with each other and with the box or tub A, substantially as herein shown and described and for the purposes set forth.



**68,818.**—DENTER P. WEBSTER, Upper Gilman-ton, N. H., and HERMON W. LADD, Philadelphia, Pa.—*Spring Bed Bottom.*—September 10, 1867.—The bottom is composed of a series of slats and spiral springs hooked together to form mutual lateral sup-port.

*Claim.*—First, the hooks C, separate and independ-ent, provided with flaring mouths, in combination with the coils of the springs, substantially as and for the purpose described.

Second, the springs with an auxiliary fastening formed by turning up one end of the spring so as to pierce the slat, when otherwise secured by the single wire clamp a, substantially as described.

Third, the mode of packing by interlocking the springs and slats, as herein represented and described.

**68,819.**—EDWARD WEISSENBORN, Hudson City, N. J., assignor to AMERICAN LEAD PENCIL COMPANY, New York, N. Y.—*Machine for Making Lead Pen-cils.*—September 10, 1867.—The blanks are placed between the guides, and, settling down on the reciprocating catch plates, are carried forward one at a time to form a continued series, which is passed between the upper and under rotary cutters. The cutters convert the blanks into hexagonal or cylindrical pencils.

*Claim.*—First, the sliding bars D carrying the piv-oted catches E, arranged in relation with the frame a, guides C, and cutters, substantially as herein set forth, for the purpose specified.

Second, the sliding bars D, pivoted catches E, and levers F, combined with suitable cams H and spring retractors I, operating substantially as herein set forth, for the purpose specified.

Third, the arrangement of the two cutter heads N and T and their blank supporting beds with reference to each other and to the feeding devices, so that one cutter shall first groove the whole length of one side of the blank and then the other, the whole length of the other side, to separate it into pencils, as described.

Fourth, the cutters C', constructed with a flat portion  $a^2$  and curved or semicircular portion  $b^2$ , and ap-plied to the cutter head, substantially as herein set forth, for the purpose specified.

**68,820.**—JOHN F. WELCH, Hingham, Mass.—*Wheel and Axle Connection.*—September 10, 1867.—The spindle and its butting ring enter the boxing, and a washer is held against the inner face of the ring by means of a collar whose bars are drawn by a nut which traverses on the screw attached to the outer plate.

*Claim.*—The above described device for locking a carriage wheel to its axle, consisting of the plate i with its screw j, the nut b, and the jaw bars a a a, combined together and operating in connection with the ring e applied to the axle, substantially as shown and explained.

**68,821.**—NATHAN WILLEY, South Windsor, Conn.—*Evaporating Pan.*—September 10, 1867.—The pan has inclined sides and partitions, forming a sinuous, angular trough.

*Claim.*—An evaporating pan whose transverse par-titions, formed from its bottom, meets at an angle at their bottom, substantially as described.

Also, in combination with a bottom so constructed, the inclined sides, as and for the purpose described.

Also, the combination of such a bottom and inclined sides with side troughs, substantially as set forth.

**68,822.**—EDMOND W. WOODRUFF, Washington, D. C., assignor to himself and B. H. CAMP, same place.—*Over Sole for Boots and Shoes.*—September 10, 1867.—The over sole is attached to the boot by means of an elastic strap, a spring clasp, and a toe piece.

*Claim.*—Making the rear end of an over sole of elastic rubber, to which is attached a spring clasp, operating substantially in the manner and for the purposes specified.

**68,823.**—JOHN N. WOODWARD, Aurora, Ill., as-signor to himself and WALTER SCOTT, same place.—*Stand for Supporting Wagon and other Wheels when being Painted.*—September 10, 1867.—The spindle to which the wheel is clamped is attached to a seg-mental, oscillatory block, which is fixed to the re-quired inclination by a pin.

*Claim.*—The adjustable plate C, supporting the spindle D, in combination with the standard B, and a suitable detent F F', for retaining the spindle in any required position, substantially in the manner and for the purpose set forth.

The adjustable plate C, supporting the spindle D, in combination with the revolving standard B, plate A, and detent F F', for retaining the spindle and wheel placed thereon in any required position, sub-stantially in the manner and for the purpose set forth.

**68,824.**—C. D. WRIGHTINGTON, Fairhaven, Mass., and B. P. RIDER, Chelsea, Mass.—*Horse Shoe Nail Machine.*—September 10, 1867.—The hammers are connected to the pistons of the steam cylinders and are operated directly by the action of the steam introduced into the cylinder. The alternating move-ments of the hammers and pistons are effected by segmental gears that engage in toothed racks at-tached to the pistons.

*Claim.*—First, the combination of the four ham-mers D D', attached to or forming a part of the pis-tons of steam cylinders, with the gears E, arranged substantially as described, whereby the forward mo-tion of the two opposing hammers D D, actuated by the direct action of the steam, will operate to retract the opposing hammers D' D', substantially as de-scribed.

Second, the arrangement of the hammers D' D', on the inclined sides of the bed plate A, as and for the purpose described.

**68,825.**—BENJAMIN YEAKEL, Allentown, Pa.—*Threshing Machine.*—September 10, 1867.—The ad-justable detaining boards regulate the exit of the straw and back it up on the grain passing through the cylinder when necessary. The straw carrier is perforated to let through the grain.

*Claim.*—First, the detaining apparatus, consisting of the boards e and f, when the same are arranged and operating substantially as and for the purpose herein shown and described.

Second, the springs c on the frame B, in combina-tion with the bars d and shaking table F, made and operating substantially as herein shown and de-scribed.

**68,826.**—JAMES YOCUM, Jr., Philadelphia, Pa.—*Hanger for Shafting.*—September 10, 1867.—The protruding lugs of the hanger afford sockets for the bearing blocks. In these cast iron lugs are imbedded wrought iron nuts, through which pass the screws by which the vertical position of the shaft bearing is adjusted.

*Claim.*—A hanger, which is constructed of cast metal with wrought metal screw tapped nuts, for re-ceiving the adjusting screws, the cast metal being made to surround the wrought nuts, substantially as described.

**68,827.**—E. S. YOUNG, Worcester, Mass., and A. WHIPPLE, Whitinsville, Mass., assignors to ED-WARD S. YOUNG, Worcester, Mass.—*Drill.*—Sep-tember 10, 1867.—The drill shaft, with the head sup-ported it, has adjustment in a vertical plane, and the drill is adjusted therein to operate at any angle from the horizontal plane passing through the axis of the driving shaft.

*Claim.*—The combination as well as the arrange-ment of the slider G, the cylindrical tubular shaft H, and the clamp screws c d, with the cylindrical stand-ard A, the head I, and the drill driving and feeding mechanism, substantially as described, the standard A being provided with the screw a', the jaws B C, and their operative mechanism, or their equivalent.

**68,828.**—AGUR JUDSON, Newark, N. J.—*Me-chanism for Sewing Oval Seams.*—September 10, 1867.—The points of the top piece pass through the fabric into the cork in the sockets, thereby insuring the turning of the plates about and upon the disk in their oval path of travel as the feed motion carries the material along. The circular shears are sup-ported by a frame that is secured to the platform and are operated, when required, by the crank and bevel gears.

*Claim.*—First, the combination with devices for stitching oval or elliptic forms of an apparatus for cutting the material into similar forms.



Second, the frame or bed piece A, with its adjustable devices for describing ovals or ellipses when so applied to a sewing machine table that it may present the fabric either to the needle or to the cutters.

Third, the revolving plate *r*, constructed and operating substantially as described.

Fourth, the radially slotted disk *s*, applied and operating as and for the purpose set forth.

Fifth, the combination of plate *r* and slotted disk *s*, for joint action, substantially as set forth.

Sixth, the combination of the adjustable slide V, with the disk *s*, as and for the purpose set forth.

Seventh, the plate B, provided with sockets for the reception of cork or other substance, as and for the purpose set forth.

Eighth, the combination of plate B, constructed as described, with the top plate or piece D, as and for the purpose set forth.

Ninth, the combination with frame A of a scale for indicating the size of the oval to be described.

Tenth, the combination with such frame of a scale for indicating the change in the form of the oval to be described.

**68,829.**—HIRAM ALDRIDGE, Goshen, Ind.—*Portable Horse Power*.—September 17, 1867.—The devices are applicable to horse powers which are operated without dismounting, and are for the purpose of locking the wheels and staking the machine to the ground.

*Claim.*—First, the movable hounds or braces O P, applied to the front and rear ends of a portable horse power in such manner as to secure these ends down to the ground upon their wheels, substantially as described.

Second, the combination of diagonal braces or ties R R, with the inclined braces O P, and a portable horse power which is mounted upon four wheels, substantially as described.

Third, locking devices applied to the transporting wheels of a four-wheel horse power, substantially as and for the purposes described.

Fourth, locking devices applied to the front axle of a four-wheel portable horse power, substantially as described.

Fifth, the construction of the cast iron ring E, for the purposes and substantially as described.

Sixth, the arrangement of the coupling shaft J, or its equivalent, so as to admit of the attachment of tumbling shafts to both ends of it, substantially as described.

Seventh, the auxiliary removable, supporting frame S, applied to the portable horse power frame, substantially in the manner and for the purpose described.

Eighth, combining sweep or lever horse powers with a permanent four-wheel carriage for transporting the same and which is arranged with means that will admit of the locking of its wheels and the securing of the machine down upon the ground upon its wheels for operation, substantially as described.

Ninth, the permanent hound or brace O P, applied to the front axle of a portable horse power in such manner as to prevent said axle from moving right or left on its wheels when said power is operated, substantially as described.

Tenth, the diagonal braces or ties R R, applied to a portable horse power which is mounted upon and adapted for being operated upon four wheels, substantially as described.

**68,830.**—RICHARD H. ATWELL, Baltimore, Md.—*Liquid Meter*.—September 17, 1867.—A water wheel within a pipe is connected to a register to indicate the flow of water. The flow is regulated by a sliding valve.

*Claim.*—First, the valve K, constructed and operating in combination with the wheels D, substantially as described for the purpose set forth.

Second, the helix H, in combination with the shaft C, water wheels D, and registering device, substantially as and for the purpose specified.

Third, the arrangement of the rims or partitions *a a'*, water wheels D, and valve K, substantially as described.

**68,831.**—F. A. BALCH, Hingham, Wis.—*Reel*.—September 17, 1867.—The arms have parallel bars so that as the head of each arm is carried to a point,

more or less near to the central shaft, the said head will always continue parallel to said central shaft.

*Claim.*—First, the parallel bars C D, to connect the head B and winding blade E of a reel, substantially as and for the purpose set forth.

Second, the head B and blade E, connected by the parallel bar C and D, substantially as set forth, in combination with the sliding head F, and connecting rods G, for the purpose of retaining the winding blades more or less distended, as desired.

**68,832.**—AUGUSTUS E. BIGELOW, Lawrence, Mass., assignor to JOHN and JOSEPH H. KENDRICK, Providence, R. I.—*Machine for Dressing Weavers' Harness*.—September 17, 1867.—The endless, tenter-hook belt sustains and carries the harness while the operations of sizing and varnishing are carried on. This is performed by brushes which act upon the sides at once and in the direction of the twine, so as to lay the fibres flat and render the twines smooth.

*Claim.*—First, the combination of an endless tenter-hook belt C C' with the revolving brushes F F, substantially as described for the purposes specified.

Second, the combination in one machine of the endless tenter-hook belts C C', or equivalent means for supporting and conveying the harnesses, an apparatus for sizing and an apparatus for varnishing a weaver's harness, substantially as described for the purposes specified.

Third, reciprocating brushes *k k'*, when arranged to act upon the harness, in the manner and by the means substantially as described.

Fourth, the combination of the endless tenter-hook belts with the reciprocating brushes *k k'*, substantially as described.

**68,833.**—MARTIN BISHOP, Putnam, Ohio.—*Canal Lock*.—September 17, 1867.—The gate, with its shaft arms and supporting attachments, forms a lock when raised, and when lowered it retreats into a corresponding chamber in the bed of the canal and offers no obstruction to the channel.

*Claim.*—First, the construction of the gate operating on its shaft L with its arms M, fitting between the divisions N, and having bracing P P, and resting below the bottom of the canal in the correspondingly shaped chamber R, as herein described and for the purpose set forth.

Second, the chamber R, constructed as described with subdivisions N N, located beneath the bottom of the canal, as herein described and for the purpose set forth.

Third, in combination with such chamber and gate, the adjustable wickets, operated as described and for the purpose set forth.

Fourth, in combination with the gate, the movable device or apparatus S, as herein described and for the purpose set forth.

**68,834.**—L. H. BOOLE, New York, N. Y.—*Preserving Eggs*.—September 17, 1867.—The gases and water contained in the fresh eggs are expelled by a blast of air and pressure, and the eggs are brought to a solid state and compact form by compression.

*Claim.*—First, the process of preserving eggs by desiccation and compression substantially as herein described.

Second, as an article of manufacture eggs desiccated without heat, substantially as described.

Third, as an article of manufacture eggs desiccated and compressed, substantially as herein described.

**68,835.**—CHARLES F. BOSWORTH, Milford, Conn.—*Sewing Machine*.—September 17, 1867.—The needle starts slowly to rise from its lowest point and rising in advance of the velocity of the machine passes over its upper dead center and down to its lowest point, where it pauses while the shuttle passes through the loop. By the peculiar formation of the cam and the take-up, working rigidly thereon, a positive and fixed tension is secured. The tongue forms a fulcrum under which the shuttle bears when the thread is drawn taut to prevent the lifting of the heel of the shuttle.

*Claim.*—First, the combination of the slot I in the one plate and the slot H in the other with a connecting rod K, constructed with its two bearings *a* and *b*, so as to operate substantially in the manner herein set forth.

Second, the arrangement of the positive take-up Q



with its cam S, formed relatively to the movement of the needle and in combination with the thread eye *d'* on the needle slide, so as to operate in the manner specified.

Third, the arrangement of the tongue *m* upon the shuttle carrier in the position relative to the return tongue *i*, so as to operate as described.

**68,836.**—MARGARET D. BOYD, Buffalo, N. Y.—*Ladder*.—September 17, 1867.—The sections of the ladder are halved together with sleeves which form sockets, and the bolt which secures them forms a round of the ladder.

*Claim.*—The employment of the sockets B for the reception of the ends of sections when so arranged that the bolt which fastens them and the sections together acts at the same time as a step or round for the ladder.

**68,837.**—A. C. BRINER, Middletown, Pa.—*Lifting Jack*.—September 17, 1867.—When the lever is brought to a horizontal position the elevation is maintained by throwing the link into contact with the standard.

*Claim.*—The square reversible link H, with its rope J, when arranged and combined with the movable lever E, and post B, with its stationary pins or riveted bolts C, as herein described and for the purposes set forth.

**68,838.**—J. MILTON BROWN, Auburn, N. Y.—*Telegraph Apparatus*.—September 17, 1867.—When the circuit is closed around the receiving magnet the armature is drawn against the contact point and connection is made through the other magnet. When the circuit is broken on the receiving magnet the acting magnetism of the magnet excited by the local circuit overcomes the residual magnetism of the receiving magnet and draws back the armature.

*Claim.*—The combination and arrangement of the electro-magnets B B, excited by the current of the main line with the electro-magnets A A, excited by a local current traversing the armature lever D, contact point E, and pillar I, as and for the purpose set forth.

**68,839.**—LEWIS BUDD BRUEN, New York, N. Y., assignor to THE BRUEN MANUFACTURING COMPANY, same place.—*Sewing Machine*.—September 17, 1867.—The object is to adapt the machine to making several different stitches with addition of special parts. The lock stitch is formed by the needle and bobbin, the double loop by the needle and thread carrier; the two-threaded stitch by the needle, bobbin and thread carrier, and many-threaded stitch by multiplying the threads on the carriers.

*Claim.*—First, the combination of eye-pointed needle *b*, thread carrier M, cam C, feed bar H, and hook L, operating together to form seams, as described.

Second, the combination of eye-pointed needle *b*, thread carrier M, cam C, feed bar H, rotating hook L, and bobbin Y, operating together to form seams, as described.

Third, cam C, pin S, and thread carrier M, acting in combination, substantially as and for the purposes explained.

Fourth, cam C, slide R, and thread carrier M, acting in combination, substantially as and for the purposes explained.

Fifth, spool guard O, removable or permanent and with or without spool holder P, and tension N.

**68,840.**—JOHN H. BURGIN, Philadelphia, Pa., assignor to himself, GEO. H. BURGIN, JR., CHARLES F. BURGIN, and WM. M. BURGIN, same place.—*Process of Producing Gas for Fuel*.—September 17, 1867.—Steam is introduced into the oven in such quantity as to retard the combustion of the fuel and cause the mutual decomposition of the steam, the fuel and the atmospheric air. The devices are explained by the claims and illustration.

*Claim.*—First, introducing steam into gas-producing ovens in quantity sufficient to prevent the rapid combustion of the fuel, although the fuel is exposed to a full supply of atmospheric air, by maintaining the larger, to wit, the upper portion of the fuel at a dull cherry-red heat, while the lower portion is kept in a

state of incandescence, in the manner and for the purpose substantially as set forth.

Second, introducing steam into gas-producing ovens above the grate bars or bottom thereof directly into the body of incandescent fuel in fine jets or in a continuous thin sheet or in several such sheets, in quantity aforesaid and for the purpose aforesaid.

Third, introducing steam into said ovens below the grate bars or bottom thereof through the body of incandescent fuel, in the quantity and for the purpose aforesaid.

Fourth, introducing steam into gas-producing ovens above the grate bars or bottom thereof directly into the body of incandescent fuel, in quantity aforesaid, in combination with an artificial blast of air below the body of fuel.

Fifth, the employment of anthracite coal as a fuel in gas-producing ovens, in combination with an artificial blast of air and with steam, the air and steam being admitted in quantity sufficient to maintain the lower portion of the fuel in a state of incandescence, and the upper and larger portion of the fuel at or about a dull cherry-red heat, substantially as set forth.

Sixth, the pipe H, constructed and arranged substantially as described for introducing steam into the oven.

Seventh, the pipe H, constructed and arranged substantially as described, in combination with the aperture E and pipe F, or other device for producing an artificial blast of air, substantially as shown and described.

Eighth, the pipe F, or other device for producing an artificial blast, in combination with the pipe H and valve R, in the exit flue of a gas-producing oven, substantially as shown and described.

**68,841.**—ROBERT and JOSEPH L. CASSADY, Hardingsville, N. J.—*Corn Planter*.—September 17, 1867.—Furrows are made by the blades, and a reciprocating vertical motion is imparted to the bars by the ratchet wheel acting through the medium of the levers, arm and cross-piece by which the seed is carried from the hopper and deposited. To transform to a horse rake, the boxes, frame and guides are detached, and the rake head and its teeth are attached to the staples.

*Claim.*—First, the boxes F F, hoppers K K, bars G G, cross-piece H and arm I, in combination with the ratchet wheel *d* and the levers J K', or their equivalent, the whole being constructed and operating substantially as and for the purpose described.

Second, the frame S, with its arms *t* and plates *w*, hung to the frame A, substantially as specified.

Third, the adjustable bars P P and their plates *f*, in combination with the shaft R and its pinions *i*, or their equivalents, the whole being arranged on the frame, substantially as and for the purpose set forth.

**68,842.**—ROBERT H. CHAMPLIN, Colechester, Conn.—*Truss*.—September 17, 1867.—The body belt is secured by straps that are attached to the back and front and pass over the hips. The pad is attached to the lower edge of the band so as to cover the rupture, and is secured by a strap.

*Claim.*—The herein-described truss, consisting of the band A, straps C C and E, and pad D, all constructed and arranged as specified.

**68,843.**—PATRICK G. CLANCY, Augusta, Me.—*Shifting Rail for Carriage Tops*.—September 17, 1867.—The short hooked projections on the rail catch in eyes in the plates attached to the sheet, and are held in position in the eyes by shortening the rail. The rail is extended by an independent section screwed into its center by right and left screws.

*Claim.*—First, the arms *b b'*, having the gain C, decreasing in width from its outer to its inner side, and having the short shoulder *x*, the long shoulder *x'*, and the rounded or beveled corner *s*, substantially as and for the purposes specified.

Second, the wedge-shaped socket plates *a a'*, substantially as and for the purpose specified.

Third, the combination of the bent arms *b<sup>2</sup> b<sup>2</sup>* with the notched arms *b b'*, substantially as and for the purpose specified.

**68,844.**—LYMAN C. CLARK, Davenport, Iowa.—*Thill Coupling*.—September 17, 1867.—The bolt socket in the thill iron opens upward, and may be attached



when the thills are held vertically, but the engagement is secure while the thills are in the working position. The pad beneath prevents rattling.

*Claim.*—The thill iron B, constructed as described, in combination with the clip A, having the packing a arranged between the ears A''' on the plate A'', all arranged to operate as and for the purpose set forth.

**68,845.**—HENRY H. CLEMONS, Oshkosh, Wis.—*Snow Plow for Railroads.*—September 17, 1867.—The plow has vertical longitudinal cutter plates, and an inclined bottom platform which remove the snow from the track merely, leaving perpendicular sides to the cutting. The snow is raised by the inclined part, and thrown out by the mold boards.

*Claim.*—A snow plow for railroads, composed of an inclined platform A, a plow B, and the cutters C, constructed, arranged and operating substantially as herein set forth and described.

**68,846.**—WM. H. COCKS, Richmond, Ind.—*Harness Buckles.*—September 17, 1867.—The pin passes through both straps and acts as a tongue in a buckle. The pin (one or more) is held in place by the sleeve, and the sleeve is locked by a spring catch.

*Claim.*—The loop or slide C, spring P, and one or both of the pins d and e, in combination with the strap A and B, all arranged and operated substantially as set forth, and for the purpose described.

**68,847.**—PEARCE K. CURLL, Elkridge Landing, Md.—*Water Elevator.*—September 17, 1867.—The buckets are attached to an endless chain whose links embrace the axle of the flanged rollers that run on the tracks attached to the frame. The rollers engage in raised bearings on the sprocket wheels. On the upper wheel a grooved pulley is attached, round which runs the endless chain that operates the elevator.

*Claim.*—A water elevator, consisting of a series of buckets E, having journals attached as described, and connected by the detachable links l, with the flanged rollers n applied to the journals, the whole mounted in a suitable frame, having tracks A and B for guiding and supporting the series of buckets, all constructed and arranged to operate substantially as described.

**68,848.**—ELLIOTT DAVIES, Jr., Carthage, Ill.—*Cultivator.*—September 17, 1867.—The tongue is pivoted in the frame, and extends back in form of a foot rest, by which the longitudinal inclination of the frame may be regulated. The inner ploughs are moved laterally by a hand lever, which slides the bar to which they are attached.

*Claim.*—First, the lever S, in combination with the sliding cross head M, mounted on side pieces C C', and bearing pieces O O', connected by stay rods P P' to main axle A, and bearing the two inside plows R R', all substantially as specified.

Second, the stationary back plows F F', connected to the cross piece D, in combination with the side pieces C C', the sliding cross head M, with its plows R R', the wheels B B', seat K, and the tongue H, hinged to ends of pieces C C', all substantially as specified.

**68,849.**—GEORGE M. DAVIS, Chicago, Ill.—*Steam Gauge.*—September 17, 1867.—The parts are all on one foundation or plate, so as to be readily removed and replaced. The flexible plate is held by the annular flange to the projections, which are raised up to form a steam chamber at the back of the diaphragm which supports the moving devices.

*Claim.*—The diaphragm A, arranged to support the devices D B C U, and having rims P P' for clamping plate N to projection M M on back K, substantially as and for the purposes set forth.

**68,850.**—E. DE LA GRANJA, Boston, Mass., assignor to self and HERMAN SUSMANN, same place.—*Preserving Meats, &c.*—September 17, 1867.—A solution of red, sweet pimento and some vinegar is injected into the aorta of the animal, and an impermeable coating of paraffine or wax applied to the outside.

*Claim.*—The process of preserving meats, by applying the injection or saturating mixture above described, in combination with the impermeable covering, substantially as and for the purpose set forth.

**68,851.**—ALBERT DENISON, Stillwater, N. Y.—*Washing Machine.*—September 17, 1867.—The slatted cylinder containing the clothes rotates in the suds box. The clothes are subjected to the pounding action of the balls which roll in the cylinder.

*Claim.*—The revolving box B, constructed of wooden bars or slabs h and end pieces D, in the form of a polygonal prism, with a hinged section extending its entire length, and having journals attached to it as described, in combination with the journals E E', journal boxes F F', and balls l, open tank A, when arranged to operate in the manner and for the purpose specified.

**68,852.**—WILLIAM E. DERRICK, Jordan, N. Y.—assignor to himself and AARON PECK, same place.—*Pump Piston.*—September 17, 1867.—This is intended for submerged pumps, and the vertical or inclined position of the valve seats prevents lodgment of sediment upon them, or between them and the valves.

*Claim.*—The pump piston, having two sets of induction and eduction ports E and F, and a valve G, with two flat wings w, connected together by a shank which is held in position by the solid pivot a upon the lower half D of the piston head, all the parts being constructed and arranged in the manner shown and described and for the purposes set forth.

**68,853.**—EDWARD N. DICKERSON, New York, N. Y.—*Steam Engine.*—September 17, 1867.—The objects to be secured by the devices described, are, to open the valve slowly at first, and rapidly as the crank has advanced in its revolution; to shut quickly when the cut-off point is reached; to secure accuracy of movement of the cut-off irrespective of the degree of pressure or lubrication and unaffected by the spring of the parts; to open the exhaust at such period that the time necessary for condensation shall be taken while the piston is moving the least in proportion to the circular motion of the crank.

*Claim.*—First, the combination of the two lifters on the same lifting rod, one being fixed to it and the other sliding upon it, for the purpose of effecting the reduction of the initial motion of opening steam valves, substantially as described.

Second, the combination of the lever for opening the steam valve gradually, with the fixed and movable lifters, the one being moved by the motion of the lifting rod, and the other supporting a separate disengaging apparatus, substantially as described.

Third, a lever, one end of which is raised by the fixed lifter on the lifting rod, and by which the steam valve is pried open gradually, and so arranged that it can be adjusted to vary the speed of lifting, without changing the position of the point on the lifter, relatively to the valve stem to which the lifting power is applied, substantially as described.

Fourth, the vibrating tripper, centered upon the lifter itself, which opens the valve, as distinguished from a tripper which is centered, or some other part of the machine, substantially as described.

Fifth, the vibrating die for engaging and disengaging the valve stem to effect a cut-off, so arranged that it will vibrate in an arc whose concave side is presented to the valve stem, substantially as described.

Sixth, the collar which surrounds the valve stem, having one or more radial ribs upon it, for the purpose of co-operating with a movable die to effect a cut-off, substantially as described.

Seventh, a "dash pot," whose plunger is composed of two cylinders of unequal diameters, the smaller of which is the arresting plunger, forming the bottom of the larger one, and whose exterior chamber is composed of a cup or secondary reservoir, to receive the arresting plunger, and above it a confining vessel to guide the larger cylinder of the plunger, and to exclude the air, substantially as described.

Eighth, the combination in a rock shaft of one false exhaust toe, and one fixed one by which it is supported, with a stud or prop between them, so arranged that it can be dropped or elevated at pleasure, substantially as described.

**68,854.**—MENNO ALBERTUS DIETRICKS and JOHANN HENRICUS DIETRICKS, Baltimore, Md.—*Grinding and Polishing Metals.*—September 17, 1867.—The tool is held in a clamp on the upper surface of a reciprocating sliding frame that receives its motion



through a system of miter wheels from the shaft of the grindstone. The motion is reversed by the driving wheel being thrown in and out of gear with the respective bevel wheels, or a stationary screw shaft on the sliding frame. The pivoted frame is adjusted with respect to the stone by a screw shaft set at right angles to that on the sliding frame, and having its bearing in a swiveled box, hung in a stationary arm attached to the water reservoir of the stone.

*Claim.*—First, the sliding frame *m*, in combination with flanges or tracks *N N*<sup>1</sup> *N*<sup>2</sup>, adjustable strip *N*<sup>3</sup>, and set screw *N*<sup>4</sup>, when constructed and operating in the manner and for the purpose set forth.

Second, the pivoted frame *J*, in combination with the weighted lever *L*, slotted cross piece *V*, dogs *W W'*, curved notched arm *Y*, and spring plate *c*, constructed and operating as and for the purpose set forth.

Third, the adjustable stop pins *f*, heads *f'*, and rib *M'*, in combination with the lever *L* and pivoted frame *J*, constructed and operating as and for the purpose set forth.

Fourth, the lever *L*, provided with hook *b*, in combination with the hinged dogs *W W'*, arm *Z Z'*, and chain *a*, constructed and operating as and for the purpose specified.

Fifth, the frame *O*, provided with arms *O' O'*, in combination with the slotted adjustable bed plate *i* and bolts *i i'*, constructed and operating as and for the purpose set forth.

Sixth, the combination of the adjustable racks *g g'*, having set screws *g*<sup>2</sup>, screw shaft *l*, pinion *o*, pawl *n*, fixed ratchet *m*, upright arm *j*, pivoted box *k*, and pivoted frame *O*, substantially as described, for the purpose specified.

**68,855.**—MARTIN A. DILLEY, Mendon, Mich.—*Hay Loader.*—September 17, 1867.—The machine is attached to the wagon and drawn with it about the field. The fork gathers the hay in the windrow or passes beneath the hay cock, and the ground wheel being thrown into engagement with the pulley, the rope is wound on the drum, the rake lifted and its load thrown onto the wagon.

*Claim.*—First, the arrangement and combination of the hinged tilting bars *A a B b*, and guide rod *I*, with the hay fork, and with its lifting bar *L*, automatic stop *k*, and derrick frame, substantially in the manner described.

Second, connecting the fork tines *t* to the head bar *J'*, by threaded bifurcated ends *e*, short clamps *c*, and nuts *n*, substantially as set forth.

Third, the driver's seat *W*, placed over the driving wheel, the axle of which carries a winding drum *N*, in combination with an oscillating foot treadle *U*, connected and arranged so that the driver with his foot may control the ascent and descent of the fork in the manner substantially as herein specified.

Fourth, the guard points *P*, in combination with the fork tines *t*, substantially as and for the purpose herein described.

**68,856.**—JOHN B. DOUGHERTY, Rochester, N. Y.—*Barrel Head Machine.*—September 17, 1867; antedated September 4, 1867.—The blank is clamped between a plain and serrated disk, and rotated in contact with a circular saw.

*Claim.*—First, an automatic barrel head turning machine, when the automatic movements or adjustments are produced by suitable cams *P C'* and *C''*, and their necessary connecting rods, substantially as herein shown and described.

Second, in combination with the sliding or clamping shaft *Y*, the feathered pinion *P''*, spiral springs *J*, collar *c'''*, lever *L'*, and cam *C'*, they being arranged and operating conjointly in the manner and for the purposes shown and described.

Third, the arrangement of the set screw *k*, pivoted nut *n*, and the lever *L'*, in connection with the clamping heads *M* and *N*, substantially as shown and described and for the purposes set forth.

**68,857.**—CHARLES A. EATON, Minneapolis, Minn.—*Burglar Alarm.*—September 17, 1867.—The plate is attached to the casing, and as the door opens the trigger is tripped and the match sprung, lighting the fuse of the torpedo.

*Claim.*—First, the combination of the perforated

plate *e* with the cock *C*, as and for the purpose specified.

Second, the combination of cock and trigger *C D* with block holder and slide *A B F*, substantially as and for the purpose described.

**68,858.**—ELIJAH EATON, Hartford, Conn.—*Thread Pointer.*—September 17, 1867.—The end of the thread is drawn between the spring jaws, one face of which has teeth and the other a file surface.

*Claim.*—A thread pointer, consisting of the hinged plates *A* and *D*, the ends of which are provided with projections *B E*, the faces of which are corrugated, serrated, or provided with a file surface, substantially as and for the purpose specified.

**68,859.**—NATHANIEL T. EDSON, New Orleans, La.—*Cotton Bale Tie.*—September 17, 1867.—The hoop is bent over the bars, and the serrations on the latter increase the tenacity of its frictional bite thereon.

*Claim.*—So constructing and providing with sharp projecting points the bar *A*, that it will grasp and hold the hoop, substantially as and for the purposes specified.

Also, so constructing and providing with sharp projecting points the bars *B*, substantially as and for the purposes specified.

**68,860.**—JOHN ELLIS, New York, N. Y., and E. C. KATTELL, Binghamton, N. Y.—*Apparatus for Distilling, Evaporating, and Refining Oils, &c.*—September 17, 1867.—The liquid is divided into a lighter and heavier portion by the direct injection of superheated steam into the same. The lighter portion passes in vapor to the condenser, and the heavier flows off through a pipe.

*Claim.*—First, the above described process for desiccating or evaporating saccharine saline alkaline, or other aqueous solutions, by the use of superheated steam, as described.

Second, the construction of a retort, or a part of a retort, of a pipe or pipes, so arranged that when either steam or superheated steam and oil or other liquids are passed or forced through it or them in the same or in opposite directions, the fluid will, naturally, from its superior gravity, repeatedly pass through the current of steam, thus thoroughly mixing it with the steam in a comparatively confined space, heating it uniformly and vaporizing it, as occurs in the tubular portion of our apparatus, and as will result if a spiral pipe is placed in a horizontal position or approaching that position, and steam and oil passed through it.

Third, the forcing or driving of petroleum, or other liquids, by the use of steam or superheated steam, applied directly to the liquid, either in a pipe or a retort upwards, either vertically or at any inclination, or in any direction, upwards, in such a manner that the same oil or fluid will not return to pass through the same part of the pipe or retort again, until it leaves the retort.

Fourth, the constructing of a retort, or a part of a retort, either of a single pipe or of pipes, so bent or connected by return bends that portions lie parallel, or nearly so, with each other, as shown in the drawings and described in the specifications.

Fifth, a horizontal flat-bottomed chamber, connecting with a vertical chamber, and receiving the lower end of a pipe from a tubular retort.

Sixth, so constructing a retort, where either steam or superheated steam is to be used in direct contact with the oil or other fluids, that there shall be no chance for water from condensed steam to collect in the retort, owing to the escape pipe for the unvaporized portion of the oil or fluid being either on a level or lower, better lower than the lowest part of the retort, which is so far free from pressure as not to be forcibly cleared by the current of steam or vapor.

Seventh, the forcing of oil through a rose into a retort, into contact with a current of superheated steam.

Eighth, the water pipe *K*, passing back and forth, in combination with a horizontal condenser, substantially as represented in the drawings.

**68,861.**—LEWIS C. ENGLAND, Philadelphia, Pa.—*Tannery.*—September 17, 1867.—The hides are suspended from hanging bars, within the vats of liquor



which is supplied and removed by pipes in regular order, the stronger liquor being applied to the oldest stock and the weaker to the green hides.

*Claim.*—First, hanging bars I B, with center and end lugs, constructed and operating in the manner herein set forth and described.

Second, the arrangement of conveying off the weak or spent liquors from the tan vats either by a hollow beam H B, with openings 1' 2' 3' 4' 5' 6', placed near the top and running through the center or on the side of the vats, or any other arrangement substantially the same to accomplish the desired purpose.

Third, troughs T T' and T'', supply tubes S T, perforated distributing tubes D T, tube R T, junk No. 1, with pump junk No. 2, and connecting tube C T, all constructed and combined in the manner and for the purpose above set forth and described.

Fourth, a tannery constructed and arranged in the manner herein described.

**68,862.**—JOHN EVANS, Davenport, Iowa.—*Brick Mold.*—September 17, 1867.—Each compartment of the mold has a sliding bottom and these are fastened together by bars at their ends. On the inside of the bars are guides which fill corresponding grooves in the partition pieces of the molds.

*Claim.*—A brick mold having sliding bottoms A, and side bars B, the movements of which are regulated by guides C, and grooves D, substantially as described.

**68,863.**—MAHLON EVERETT, Kalamazoo, Mich., assignor to himself and HENRY F. COCK, same place.—*Hydraulic Engine.*—September 17, 1867.—Two force and lift pumps, arranged side by side, are so connected that the pistod rod of one pump works the supply valve of the other pump, and vice versa.

*Claim.*—The valves P and P', the valve arms L L, and the arms H<sup>1</sup> H<sup>2</sup> H<sup>3</sup> H<sup>4</sup>, in combination with the arm rods G G, and piston rod M, all arranged and operated as and for the purposes herein set forth.

**68,864.**—OSCAR FINCH, Owego, N. Y.—*Trace Buckle.*—September 17, 1867.—The curved pivoted lever presses the trace against the cross bars and thereby reduces the strain on the tongue.

*Claim.*—A trace buckle with a curved lever pressing the trace outward against two cross bars, thereby preventing the trace from tearing or breaking and preventing injury to the horse, as set forth.

**68,865.**—JOHN FOLEY, Cleveland, Ohio.—*Balancing Mill Stones.*—September 17, 1867.—The balancing weights are attached at opposite sides of the stone to the set screws by which they are adjusted.

*Claim.*—The employment of the solid and chambered weights c g, with their respective devices for adjusting them, applied externally to the loop F, the whole arranged and operating in the manner and for the purpose described.

**68,866.**—AMBROSE J. FOSTER, Lake Mills, Wis.—*Hame Fastener.*—September 17, 1867.—The link on the one hame engages in the corrugated bar attached to the other.

*Claim.*—In combination with the hames A the metallic strap or bar B, provided with teeth or corrugations b b and the link c, arranged and operating substantially as and for the purposes specified.

**68,867.**—SAMUEL GALBRAITH, Pine Grove Plantation, La.—*Compound for Destroying Insects.*—September 17, 1867.—A finely pulverized composition of quicklime and salt is sifted over the plants.

*Claim.*—The composition above described, when compounded and used in the manner and for the purpose specified.

**68,868.**—O. S. GARRETSON, Buffalo, N. Y.—*Window Pulley.*—September 17, 1867.—The height of the core is reduced by casting the cap so that a part of its sides form a part of the face plate. The bearings for the axis of the pulley are made in the face plate.

*Claim.*—Dividing the box or cap C into equal, or nearly equal, parts by the segmental line m, when the convex portions b form a part of the outer plate g and enclose the axle bearings i, substantially as and for the purposes set forth.

**68,869.**—JOSEPH GECMEN, Chicago, Ill.—*Malt Kiln.*—September 17, 1867.—The plows consist of perforated strips, which may be tilted by levers on the outside, and when tilted the grain falls into a chute. The floors are in a vertical series, and the heat flues have dampers by which the heat may be regulated among them.

*Claim.*—First, constructing the perforated floors in separate sections b, arranged and operating substantially in the manner and for the purposes set forth.

Second, in combination with the series of floors in a malt kiln the arrangement of the space R, provided with one or more openings e f, substantially in the manner and for the purposes described.

**68,870.**—SAMUEL GISSINGER, Lawrenceville, Pa.—*Tool Holder for Turning Lathes.*—September 17, 1867.—The tool is secured by clamps and nuts, and the holder adjusted by the endless screw that operates the cog wheels of the supporting rods.

*Claim.*—The pivoted leaf B, when used in combination with the nuts y, screws e, armed with wheels m, said wheels, screws, and nuts being operated through the medium of the endless screw n, the whole being arranged, combined, and operating substantially in the manner and for the purpose herein described and set forth.

**68,871.**—SETH GREEN, Rochester, N. Y.—*Device for Hatching Fish Spawn.*—September 17, 1867.—The rectangular box is attached to the floats at an obliquity suited to the rapidity of the stream. An opening at one end is covered by a wire screen, and is protected by a slide door when required. The open bottom is also covered with a fine wire screen.

*Claim.*—The employment of the fish propagator, or spawn hatcher, constructed and arranged substantially in the manner and for the purposes herein shown and described.

**68,872.**—J. HART, S. HART, and J. REESMAN, Farmington, Iowa.—*Spinning Machine.*—September 17, 1867.—The carriage carrying the roping clamps is moved during the operation of drawing and spinning, and is automatically stopped to discontinue the drawing. The clamp holds the roping during the operation, each roping being held between two semi-circular jaws.

*Claim.*—First, the arrangement of the combined clutch and drum r for controlling the motion of the carriage with the spindle driving shaft and its pulleys, substantially as described.

Second, the tripping lever T, cord w', lever P, latch pin t, and spring rod M, carrying arms s s, in combination with a drum r, which is provided with a clutching device, all being arranged and constructed in such manner that when the carriage presses against the lever T the drum r will be made loose upon its shaft, and this carriage caused to stop further backward movement.

Third, the roping clamp K constructed of plates l l, and an intermediate sliding plate m, notched and perforated, substantially as described.

Fourth, providing for unwinding the roping from its spool G during a portion of the backward movement of the carriage E, by means of a friction roller F, and vertically and endwise movable bars J J, which latter are actuated by the arms J' on the carriage, substantially as described.

**68,873.**—LEVI HAVERSTICK, Manor Township, Pa.—*Horse Hay Fork.*—September 17, 1867.—The heel of the tine embraces the hoisting arm, whereby it is rigidified for insertion, and it is secured in its lifting position by the hinged brace, which is tripped by the elbow latch to deposit the hay.

*Claim.*—The arrangement of the hoisting arm A with its eye a, pulley L, with or without the spur tooth B, together with the elbowed latch C D and notched click F, in combination with the tine or tines G and ratcheted terminus and eye g, held together by rivets, and operated substantially in the manner and for the purpose specified.

**68,874.**—WM. H. HAWLEY, Utica, N. Y.—*Elevating Block.*—September 17, 1867.—The track rope passes through the case under the locomotive pulleys. The draft rope leading from the hay fork to the team



passes between the lower pulley and the stop. The cord running over the pulley in the rear operates the stop that rigidly connecting the draft to the track rope above arrests its progress in either direction.

*Claim.*—First, the arrangement of the pulleys B and B' and D in the same plane, with the two first above the other, substantially as described.

Second, the mode substantially as herein described of governing the motion of the apparatus and the draft rope by means of the stops C and F.

Third, the track rope pulleys B and B', and the stop C, in combination substantially as described and for the uses and purposes mentioned.

Fourth, the draft rope stop F and pulley D, in combination substantially as described and for the uses and purposes mentioned.

**68,875.**—ROBERT HENEAGE, Buffalo, N. Y.—*Car Brake and Starter.*—September 17, 1867.—Pressure is applied to the foot piece, which, through the medium of the levers, brings the rear brake wheels in contact with the friction wheels, setting the gearing in motion and compressing the spring coiled around the shaft and arresting the car. By the reflex action of the spring through the gearing the car is assisted in starting. The propelling power is proportioned to the strength of the spring.

*Claim.*—First, the brake wheels E E' in combination with the coiled spring *i*, gearing *j k k' s*, levers H H' I I', and connecting bars *m m'*, arranged and operating substantially in the manner and for the purpose set forth.

Second, in combination therewith the springs *q*, arranged and operated substantially as specified.

Third, the standards F with their lower ends attached to and resting upon the axle D, while their upper ends are held by guides G secured to the bottom of the car which slide up and down thereon with the springing of the latter, arranged and operating substantially in the manner and for the purpose set forth.

**68,876.**—DAVID B. HERRINTON, Detroit, Mich.—*Hanging Grindstones.*—September 17, 1867.—The plates which pass through the grindstone socket and on which it is sustained are adjusted on the shaft by set screws, which bear upon the square sides of the shaft.

*Claim.*—The arrangement and combination of the plates D D, &c., and the set screws C C, &c., with the grindstone or pulley A and the shaft B, or any other device, substantially the same for the purpose designed.

**68,877.**—T. G. HOFER, St. Louis, Mo.—*Vegetable Slicer and Grater.*—September 17, 1867.—The vegetable in the hopper is exposed to the action of the knives on the inner rotary cone; the knives are adjusted to regulate the thickness of the slices. A grating cone may be substituted for the cutting cone.

*Claim.*—The outside conical cylinder A, the revolving conical cylinder E, the adjustable knives *p p' p'' p'''*, the removable rim R with its eccentric and regular slots, the grating cone L, and the vise V, all in combination, when constructed and arranged substantially as shown and described.

**68,878.**—JOEL A. HOWE, Bangor, Maine.—*Cant Hook.*—September 17, 1867.—The pick handspike of the cant hook has a lip to prevent its slipping on the log. A stop in front of the lugs prevents the dog closing down on the spike.

*Claim.*—The lip *i* in combination with dog *d*, substantially as set forth.

**68,879.**—SAMUEL W. HUDSON, Beaver Meadow, Pa.—*Steam Engine Slide Valve.*—September 17, 1867.—The steam exhausts through segmental passages in the valve, and the exhaust steam acts on the wing of the slide valve, which reciprocates in a cavity communicating with the exhaust pipe. The induction steam passes through a passage in the valve perpendicular to the face.

*Claim.*—First, the wing B' projecting from a slide valve to move it by the action of steam, substantially as described.

Second, the arrangement of the steam passages *b b<sup>1</sup> b<sup>2</sup> b<sup>3</sup>*, substantially as and for the purpose specified.

**68,880.**—ABEL HUNT and SPENCER MERO, Jr., Camden, Maine.—*Carriage Curtain Fastener.*—September 17, 1867.—The curtain at the point of attachment has an oblong hole to admit the knob. The hole is strengthened by an inner and outer plate similarly perforated and riveted together through the curtain. The head of the knob fits the opening, and it is somewhat reduced below. The knob has a base piece to hold the attaching screws.

*Claim.*—The construction, arrangement, and combination of the parts B C D F G and H, as represented in the several figures on the drawing.

**68,881.**—ROBERT HUTCHISON, Newark, N. J.—*Shoe Spike.*—September 17, 1867.—The spike screws into the base plate, and is extracted by a socket key fitting its angular shank.

*Claim.*—A screw-spike formed with a point 2, a screw portion 1 and a polygonal base 3 for the reception of the key *f*, in combination with the metallic socket secured to the sole of the boot or shoe, as and for the purposes set forth.

**68,882.**—GEORGE W. IVES, North Haven, Conn., assignor to himself and ALFRED IVES, same place.—*Brick Machine.*—September 17, 1867.—A second lever is combined with the mold lever on which the power operates. When obstruction occurs from a stone in the clay the additional lever gives way to prevent breakage.

*Claim.*—The arrangement of the lever F in combination with the lever E and crank or eam C, so as to operate substantially in the manner herein set forth.

**68,883.**—EDWARD JEWETT, Rindge, N. H.—*Cant Hook.*—September 17, 1867.—The lower end of the staff has a ratchet rack to engage the log.

*Claim.*—The combination in a cant hook of the hook B and serrated plate D, constructed and operating substantially as and for the purpose set forth.

**68,884.**—JOB JOHNSON and ELIJAH D. DAVIS, Brooklyn, N. Y.—*Building.*—September 17, 1867.—Strips of sheet metal with the edges secured in grooves near the edges of the planks are corrugated so that the planks may contract or expand in their width. The corrugations of the strip allow the variation to take place without displacement of the attachment.

*Claim.*—The buttons or plates to secure the edges but allow the boards to expand or contract, in combination with a strip of metal or similar material secured to the edges and covering the joints, substantially as set forth.

**68,885.**—JOSIAH JONES, Brooklyn, N. Y., assignor to THOMAS KENNEDY, Branford, Conn.—*Manufacture of Mineral Knobs.*—September 17, 1867.—The clays of different colors to form a mottled knob are ground separately, dried, mixed, and re-ground, pressed when partially dry into the molds, and then turned and baked. The object is to avoid unequal shrinkage of the clays and consequent cracking.

*Claim.*—The process herein described for the manufacture of mineral knobs.

**68,886.**—EDWIN KING, Fredonia, N. Y.—*Clamping Device.*—September 17, 1867.—The clamp has two angle plates, whose vertical portions have slide flanges to lap around the corners of the stake, and a horizontal rib which enters a groove in the same. The horizontal part of the clamp plate is bolted to a foundation stone.

*Claim.*—The improved clamp A, provided with the return edges D D, knife edge projection E, slot B, bolt-hole C and bolt D', in combination with fence posts and trellis poles, so as to operate in the manner substantially as herein specified and for the purpose set forth.

**68,887.**—NORMAN S. KINYON and BENJAMIN F. SMITH, Chenango Forks, N. Y.—*Hay Raker and Loader.*—September 17, 1867.—The hay is gathered and elevated by hooked teeth on a series of bars upon an endless cord running on sheaves. When near the highest elevation the teeth are reversed, and the hay falls on a set of guide teeth, which deflect it to the wagon, to which the wheel frame is connected.



*Claim.*—The inclined guide teeth L L and the wire guards R R, in combination with the rake and elevating teeth and the endless carrier, all being constructed and arranged substantially as set forth.

**68,888.**—EBENEZER G. LAMSON, Shelburne Falls, Mass.—*Operating Drill.*—September 17, 1867.—Improvement on his patent, October 2, 1866, in which a bow spring of steel is interposed between the driving and striking portion of the mechanism. In this a pneumatic spring is introduced to isolate the driving mechanism from the drill or gang of drills, and avoid concussion on the operating machinery. The edges of the drills cut independently, one-half cutting when the machine moves forward, and the other half when it moves backward. The serrated face of the clamp binds against the serrations of the outside drills.

*Claim.*—First, the air spring substantially as and for the purpose described.

Second, the device whereby is regulated at pleasure the momentum of the blow struck by regulating the speed of the driving machinery, the greater the speed the harder the blow, substantially as and for the purposes described.

Third, the device whereby the piston head carrying the striking mechanism is made to operate in a different direction from the piston head attached to the driving mechanism, substantially as described.

Fourth, the mechanism for swinging out the drills longitudinally, substantially as and for the purpose described.

Fifth, the mechanism for swinging out the drills laterally, substantially as and for the purposes described.

Sixth, the mechanism for confining the drills in gangs, substantially as and for the purposes described.

Seventh, the form and disposition of the cutting edges of the drills, substantially as and for the purpose described.

**68,889.**—JOHN C. LOVE, Philadelphia, Pa., assignor to W. H. LOVE, same place.—*Lamp Burner.*—September 17, 1867.—The burner has two wicks, and a dome having a single opening. The air passes up an opening between the two flames.

*Claim.*—First, the wick tubes B B, arranged adjacent to each other, in combination with a casing, and with a dome or plate having a single opening through which the flames from both wicks may pass, and the edges of which are parallel to the sides of the wick tubes, the whole being constructed and arranged as and for the purpose described.

Second, the case C with its partitions *a a*, in combination with the tubes B B and dome *d*, the whole being arranged substantially as and for the purpose specified.

Third, the combination of the above and the plate *c* and its lips *i i*, arranged in respect to the openings *e*, substantially as set forth.

**68,890.**—WM. LUCAS, New Haven, Conn., assignor to OLIVER DOWNING, same place.—*Fan.*—September 17, 1867.—The folding part of the fan is pivoted to the ends, and its edges attached to two plates, which when folded form the edges of the case, and which have slots traversed by pins in the case, so as to cause them to remain either in the open or closed position, when so placed. The handle of the case is traversed axially by a cord, which is attached to the pivot pin, to draw it down into the case when the fan is folded.

*Claim.*—The two edges D, slotted and pivoted between the plates B, and arranged so as to operate substantially in the manner herein set forth.

**68,891.**—ENOS L. MARSH, Greenwich, Ohio.—*Lifting Jack.*—September 17, 1867.—On depressing the major arm of the lever the fence is lifted, and is held by the check rod at the height desired.

*Claim.*—The lever E, check yoke G and trapeze or swing D, when constructed and arranged in combination with the standards B and base A, in the manner as and for the purpose set forth.

**68,892.**—JOHN MASSEY, New York, N. Y., assignor to himself and PETER M. STAGG, same place.—*Invalid Bedstead.*—September 17, 1867; antedated September 7, 1867.—The swinging arms and slings are detachably connected to the bedstead to facilitate

obstetric and other surgical operations. The foot board may be oscillated into position to form a table.

*Claim.*—First, the combination with a bedstead of swinging arms or slings G, provided with stirrups or rests *m*, for operation substantially as specified.

Second, the hinged portion F of the foot board, constructed as described to form a table to the bedstead, substantially as set forth.

**68,893.**—J. M. MCMASTER, Rochester, N. Y.—*Clothes Wringer.*—September 17, 1867.—The friction wheel of the upper roller is actuated by the driving wheel, and is hung on a short shaft that is adjusted by a stirrup and set screw to regulate the pressure of the rollers.

*Claim.*—First, the employment or use of the friction or traction pulleys, either with or without a roughened periphery, arranged and operating substantially in the manner and for the purposes herein shown and described.

Second, the adjustable shaft S, arranged and operating in connection with the driving shaft G and rollers R and R', and coupling *h* and *d*, substantially as and for the purposes set forth.

Third, the relative arrangement of the two separate side clamps C, provided with a suitable dowel *p* and suspending strap *q*, and when they are so made as to have each two separate bearings horizontally as and for the purposes specified.

**68,894.**—JOHN M. MOYER, Pittsburg, Pa.—*Brick Machine.*—September 17, 1867.—The molds being placed in the slots are carried around by the wheel to the open end of the plunger box, and when filled, and under pressure, the knife passes down between the mouth of the mold and the end of the plunger and cuts the brick. The rotating wheel forwards the brick to the table, where the projecting arms discharge it.

*Claim.*—The sickle or shear spuds F and lower knife or drag H in hopper A, in combination with the raised bowl, constructed, arranged and operated in manner set forth.

Also, the knife L and plunger M, constructed and applied in manner and form substantially as described.

Also, the brick wheel N with slots and grooves to admit molds, operated substantially as set forth.

Also, the arrangement of the stop cam U, in connection with knife *q* and arm R, arranged and operating in manner described.

Also, the mold with hinged base, constructed and used as described, to and for the purpose intended.

**68,895.**—A. ODELL, New York, N. Y., assignor to himself and DAVID GRANGER, Collinsville, Conn.—*Attaching Thills to Carriages.*—September 17, 1867.

—An aperture is formed in the sides of the cavity in the eye of the shaft iron which permits it in one position to slip over and upon the conical ear pieces on the insides of the jaws of the jack. It supersedes the use of hinged jaws.

*Claim.*—The combination of a shaft iron made as hereinbefore described with an aperture E in it with the non-movable jaws of a jack, substantially as described and for the purposes hereinbefore set forth.

**68,896.**—C. D. PAGE, Rochester, N. Y.—*Brick Press.*—September 17, 1867.—The molds receive clay from a segmental hopper having a reciprocating stamp, before passing beneath the pug mill. A horizontal passage extends from the pug mill over the molds to convey a ribbon of clay to make the final addition. The mold plungers are operated by a cam-way beneath, to first press, and then eject the bricks from the molds.

*Claim.*—First, the combination with the hopper G, of the rack *c c c* and stamp H, for filling the molds and giving the initial pressure, operating substantially in the manner and for the purpose specified.

Second, the thin passage *k* leading from the pug mill, combined with the roller K, in the manner and for the purpose herein set forth.

Third, giving the followers an upward pressure under the pug mill, as and for the purpose specified.

**68,897.**—B. F. PERKINS, Holyoke, Mass.—*Steam Trap.*—September 17, 1867.—When the plates are cool the valve remains open to discharge, so that the



water of condensation may pass. The presence of steam expands the plates which close the valve.

*Claim.*—First, a steam trap operated by two or more compound plates so arranged that the expansion or contraction of one is conveyed to the second, and of those two to the third, and last, and valve D, as represented at Fig. 1 and 3 E 1 2 3 4.

Second, the spindle G and nuts F and H, the whole arranged and combined as herein described and for the purpose specified.

**68,898.**—GUSTAVUS PERKINS, Burlington, Vt.—*Cooking Stove.*—September 17, 1867.—A boiler is placed behind the oven around which the caloric current passes, and the boiler is traversed vertically by a diving flue regulated by a damper. The hot air chamber is between two fire-places and has a register in its lower, and air exit in its upper part. A long ash-drawer extends beneath the flue passages.

*Claim.*—First, the elevated oven *d* and boiler *g*, when arranged as described, in combination with yoke *y*, substantially as set forth.

Second, the hot air chamber I formed by the bevel of the two fire pots H H, register V, and aperture W, substantially as and for the purpose set forth.

Third, the supplementary pan L, for cleaning the flues of a cooking stove, substantially as shown and described.

Fourth, a cooking stove consisting of fire pots H H, ovens E *f* and *d*, boiler *g* connected with *d* by yoke *y*, flues J, dampers M N O P Q R, all arranged and combined as herein set forth and described.

**68,899.**—W. H. PLUMB, New York, N. Y., assignor to HENRY DE TAVALA, same place.—*Hat.*—September 17, 1867; antedated September 4, 1867.—A metallic plate is locked to the sweat band to prevent the hat being worn by any but the owner.

*Claim.*—A locking obstruction applied to the interior of the hat, operating, till unlocked and displaced or removed, to impede or prevent the wearing of the hat, substantially as specified.

**68,900.**—JAMES and WHELOCK W. PORTER, Wauconda, Ill.—*Reverse Lever Pitman.*—September 17, 1867.—The pins on the rotating disk come in contact with levers pivoted to a fixed frame and entering recesses in the piston. The oscillation of the levers causes the reciprocation of the pitman in its guide boxes upon the frame.

*Claim.*—The combination of a wheel A, provided with pins H or their equivalents, levers F, and pitman E, arranged and operating substantially as and for the purposes specified.

**68,901.**—WILLIAM RICHARDSON, Hookstown, Md.—*Plow.*—September 17, 1867.—The rear plow standards slide vertically in boxes which slide laterally along a transverse rear bar of the frame.

*Claim.*—First, the boxes F F, substantially as and for the purpose described.

Second, the graduated beam C, for the purpose specified.

Third, the graduated plow shanks or plow standards G' G', for the purpose specified.

Fourth, the arrangement of the removable plow E with the adjustable and removable plows G G, substantially as and for the purpose specified.

Fifth, the combination of the plow shanks G' G', the boxes F F, the set screws H H, and the cross beam C, substantially as and for the purpose specified.

**68,902.**—JOSEPH ROBBINS, Amherst, Ohio.—*Fence Post Pedestal.*—September 17, 1867.—The standards have flanged edges to take around the corners of the post, an upright pin enters the foot of the post, and the latter rests upon two angular ribs to keep the said post from contact with the metal and thereby prevent rotting.

*Claim.*—The herein described pedestal when constructed with standards B, ribs D, and pin E, in combination with the post G, in the manner as and for the purpose set forth.

**68,903.**—MATTHEW L. ROBERTS, Smithville, Canada.—*Spade for Digging Post Holes.*—September 17, 1867; antedated September 8, 1867.—The segmental spades have handles with radial hand-holds by which they may be turned or oscillated to cut a

cylinder of earth which is withdrawn with the spade. They are so pivoted as to admit of flaring to form an undercut hole.

*Claim.*—The construction and arrangement of the blades A A, hinged together at their upper ends by means of the ring segments C C, and having the handles B B united to them at points equidistant from the joints thereof, the said handles not crossing, substantially in the manner and for the purposes herein specified.

**68,904.**—JAMES ROCK, Hastings, England.—*Carriage.*—September 17, 1867.—Explained by the claims and illustration.

*Claim.*—The employment of springs or weights, substantially as hereinbefore described, to counter-balance the movable parts of folding carriage or wagon heads or coverings, in order to raise or close, or to assist in raising or closing such heads or coverings.

Also, the combination as well as the arrangement of the bent levers *b b'*, the connecting rods *d d'* and the springs *a a'*, also their combination with the jointed prop bars *l l*, the carriage body and the movable back or part *e* hinged thereto.

Also, in combination with the carriage body, its joint bars *l l*, movable back *e e'*, and the top piece *f f'*, a means or mechanism, substantially as described, or the equivalent thereof, for affecting the movement of the joint bars so as to close their joints by turning the part *f f'* down into a horizontal position, such means being the angular teeth or feather *k k* of the prop pin and the elongated eye of the upper joint rod *l*, the whole being as shown in Figs. 4 and 5, and as hereinbefore specified, the prop pin *g'* being fixed or applied to the part *f f'* so as to turn or be movable therewith.

**68,905.**—B. ROEHL, Santo-Comapam, Mexico.—*Machine for Cleaning Hemp, Ramie, &c.*—September 17, 1867.—The stalks are submitted to the action of variously edged plates on a rotating cylinder in combination with the concave and convex abutting faces of a fixed block.

*Claim.*—First, the alternate concave and convex metallic curved table edges B and C, constructed and applied substantially as and for the purposes set forth.

Second, the manner of securing the removable table edges B and C, whereby they are made rigid or immovable when the machine is in operation.

Third, the revolving cylinder A, armed with knives projecting from its perimeter for breaking up and extracting the wood, &c., from the fiber of ramie and other like plants, in combination with the removable table edges, applied and operating substantially as described.

Fourth, the method or process herein described of extracting the fiber from ramie and other like plants, consisting in first subjecting the plants to the action of the machine herein described, then soaking them in water, again subjecting them to the action of the machine, and finally placing them in a hot solution, as described.

**68,906.**—WALTER S. SARGENT and FREDERICK FLANDERS, Franklin, N. H.—*Animal Tether.*—September 17, 1867.—The shorter end of the oscillatable rod to which the tether cord is attached is connected to the piston rod, so that the pressure of the atmosphere tends to keep the longer end of the rod elevated.

*Claim.*—The combination of the cylinder E and piston *d* with the base block A, standard B, socket C, and tethering pole D, substantially as described.

**68,907.**—HENRY C. SARGEANT, Columbus, Ohio.—*Brick Machine.*—September 17, 1867.—The clay passes from the pug-mill into the molds, which are then carried under the striker. To compensate for the extra thickness of the brick, owing to the friction drawing the clay to the back part of the molds, an adjustable plate is placed on the cam track, so that when the mold is partially covered by the striker plate, the roller on the bottom of the follower rolls up on the plate and presses a portion of the clay into the mold, while the other portion discharges its surplus. The bricks are ejected by the plungers, actuated by the raised part of the track.

*Claim.*—First, raising the follower, so as to press a portion of the clay in the mold, and the expelling of



the surplus from the mold, in the manner and for the purpose specified.

Second, regulating the pressure by means of the sliding plate, as shown and described.

Third, regulating the thickness of the brick, by raising or lowering a section of a continuous track, by means of wedges and screw, or their equivalents, as shown and described.

Fourth, the construction of a propeller that the receiving and the discharging edges will operate on the clay, as shown and described and for the purpose specified.

**68,908.**—DANIEL E. SOMES, Washington, D. C.—*Manufacturing Ice, Cooling Air, &c.*—September 17, 1867.—Coolness and refrigeration are effected in an apartment by the use of liquid, atomized in the form of spray or mist, produced by forcing the liquid, by a blast of air, through small apertures. The diffusion of the liquid in the form of vapor causes much of the sensible heat present to become latent and cools the surrounding atmosphere.

*Claim.*—First, cooling and refrigerating and warming, substantially as herein described.

Second, the process of cooling and warming, as herein described, consisting in forcing or drawing spray into a vacuum, or partial vacuum, substantially as set forth.

Third, cooling, condensing, heating, and refrigerating by means of the apparatus, substantially as described.

Fourth, the apparatus herein described, constituting a vacuum, and devices for producing spray, substantially as set forth.

Fifth, a fly-wheel or balance-wheel, revolving in a vacuum or partial vacuum.

**68,909.**—A. B. SPROUT, Picture Rocks, Pa.—*Derrick.*—September 17, 1867.—The upper end of the derrick is hinged to the lever portion, and is balanced by a weighted rope, which passes over a pulley, and tends to restore the pivoted part to the vertical position.

*Claim.*—First, a derrick provided with a pivoted shaft F, made operative through the medium of the rope n, substantially as herein described and for the purpose set forth.

Second, in combination with the above, the pulleys P and i, and guide g, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

Third, the combination of the weight m, pulley E, and rope X, with the pivoted shaft F, constructed, arranged, and operating substantially in the manner herein described and for the purpose set forth.

**68,910.**—ELIZA STAFFORD, Decatur, Ill., administratrix of the estate of D. S. STAFFORD, deceased; assignor as administratrix to herself, SULLIVAN BURGESS and JOSEPH STAFFORD.—*Cultivator.*—September 17, 1867; antedated August 20, 1867.—The standards are pivoted at their upper ends, and have a double curve, from the most prominent part of which a chain connects adjustably with the frame.

*Claim.*—The pivoted curved plow standards H, connected by the chains J, substantially as and for the purpose specified.

**68,911.**—THOMAS B. STEVENSON, Dayton, Ohio.—*Instrument for Measuring Lumber.*—September 17, 1867.—Superficial measurements are obtained by traversing the surface to be measured by a revolving wheel, which transfers movements to registering mechanism indicating upon dials the quantity measured.

*Claim.*—First, registering the quantity of material measured by a traversing rotary wheel upon rotary and fixed dials, by an organization of mechanism, substantially as described.

Second, the combination of the shipping mechanism with an adjustable series of different sized pinions for changing speed, substantially as specified.

Third, the combination of the adjusting screw H, arm K, retracting spring 14, and segmental notched plate N, or their equivalents, operating conjointly in the manner and for the purpose described.

Fourth, the measuring wheel A, in combination with the thumb spring m and detent q, operating in the manner and for the purpose specified.

Fifth, the disk S, in combination with arm a and rotary dials R T I' I'', for recording the quantity measured, substantially as described.

Sixth, the shipping and adjustable mechanism represented in figures 6 and 7, in combination with the recording mechanism represented in figures 2 and 3, operating in the manner substantially as and for the purpose specified.

**68,912.**—W. STICKNEY, Lockport, N. Y., assignor to SARAH E. STICKNEY, Waterville, N. Y.—*Bed Bottom.*—September 17, 1867.—The cross-pieces to which the ends of the slats are secured are in sections hinged together. They are supported on spiral springs and have vertical guides.

*Claim.*—A bed bottom consisting of slats A A, rigidly secured to the hinged sections B B, in combination with the spiral springs d d and vertical guides c c, arranged and operating substantially in the manner described.

**68,913.**—DAVID H. SUMNER, South Boston, Mass.—*Measuring Can.*—September 17, 1867.—Two measures of different capacities are connected together and have horizontal plates extending half way across and acting as half measure indicators.

*Claim.*—The duplex measuring can, composed of the two vessels A B, the orifice d, and the partitions f g, arranged substantially as described, such can being provided with discharging spouts and a handle, as set forth, when such may be essential or necessary thereto.

**68,914.**—SEWALL TUCKER, Worcester, Mass.—*Piston Packing.*—September 17, 1867.—The sections of the rings lap upon each other and are also tongued and grooved together, so as to expand or contract without opening joints to permit the passage of steam.

*Claim.*—The improved piston-ring section as furcated and recessed at and near one end and with recesses a tongue E, and a lapping piece F at and near its other end, the whole being in manner substantially as represented in the accompanying drawings and as hereinbefore described.

**68,915.**—D. H. TURNER, New York, N. Y.—*Cooling and Purifying Animal Charcoal.*—September 17, 1867.—The charcoal is placed in a hopper communicating with one end of a rotating gauze cylinder, having oblique lifting strips to agitate the material in its passage. A current of air is passed through the cylinder to carry off the noxious gases.

*Claim.*—First, the process, substantially as herein described, of cooling and purifying animal charcoal, by agitating or giving it a series of successive or repeated lifts as it is passed through or along a reticulated cylinder or vessel through which a current of cold or cooling air is made to ascend, essentially as herein set forth.

Second, the combination for the purpose or purposes specified of a revolving reticulated cylinder or vessel provided with lifting strips or otherwise equivalently constructed, upper trunk or flue for escape of the noxious gases and finer dust, serving also for the establishment of the draft, and suitable delivery shutes or devices for separate discharge of the coal and coarser dust, substantially as described.

**68,916.**—BENJAMIN VAN DEUSEN, Troy, N. Y.—*Spittoon for Railroad Cars.*—September 17, 1867.—Explained by the claim and illustration.

*Claim.*—The combination of a tunnel or open-ended cup B, with an open-ended spittoon or spout A, as provided with a movable or swinging cover, and arranged and secured to and in the car floor in convenient positions to the seats thereof, substantially as and for the purposes herein set forth.

**68,917.**—STEPHEN WAITE, New Bedford, Mass.—*Driven Pumps.*—September 17, 1867.—The wings on the pointed shoe enables it to cut through obstacles instead of glancing from them. The rod with spiral wings rests loosely in the upper end of the shoe, and being rotated by the action of the water as the drill is operated tends to keep the tube clear of sediment.

*Claim.*—First, the within-described perforated drill-shaped point or shoe b, applied to a perforated tube a,



and arranged in connection with a pump, substantially as and for the purposes set forth.

Second, the within-described arrangement and combination of the rotating apparatus, the perforated shoe *b*, and perforated tube *a*, when applied to a pump, all being constructed and operated substantially as and for the purposes set forth.

**68,918.**—CHARLES WANDEL, Milton, Iowa.—*Hand Loom.*—September 17, 1867; antedated September 4, 1867.—As the lathe is moved toward the treadles, the lever pushes the pin with which it may be in contact and revolves the drum, operating the treadles. As the lathe moves forward, the spring raises the lever into position to take hold of the next pin and again revolve the drum at the next backward movement.

*Claim.*—The construction and arrangement of the shaft L, drum K, arms or pins J M, ratchet wheel K<sup>2</sup>, pawl R, arm or lever N, spring P, treadles H, and lathe E, as herein set forth for the purpose specified.

**68,919.**—WESLEY G. WARD, Steuben county, N. Y.—*Device for Hitching Horses.*—September 17, 1867.—The strap is passed through the eyes in the base piece, and the movable lever and tension thereupon elevates the tail piece of the lever and pushes the strap between the said tail piece and the bridge.

*Claim.*—The combination of the handles A and B, with the holes H H, and the bridge E, all being constructed and arranged substantially as and for the purposes set forth.

**68,920.**—JOHN Q. WELCH, Oswego, Oregon.—*Rotary Steam Engine.*—September 17, 1867.—As the shaft revolves, the sliding piston slips so as to maintain its edge in contact with the interior perimeter of the oblong chamber, passing the spring abutment which is placed between the induction and eduction ports.

*Claim.*—The arrangement of the oblong circle C, slot P in the shaft S, slide D, spring W, aperture *y*, and the escape at *g*, substantially upon the principle and in the manner as herein set forth.

**68,921.**—J. W. WETMORE, Erie, Pa.—*Washing Machine.*—September 17, 1867; antedated September 7, 1867.—The articles to be washed are held on the under side of the rocking pounder that alternately presses them on the bottom of the wash box and lifts them from it. The clothes are loosely confined in the frame by the pressure on the slats of the spiral spring.

*Claim.*—First, the slats *i j*, faced with flexible strips *k l*, and the movable slats *m n*, Fig. 3, constructed and operated as described.

Second, the combination in the pounder B of the slats faced with strips *k l*, movable slats *m n*, hook *w*, Fig. 3, weight box *g' f'*, lever R, and springs *p r*, Fig. 2, arranged as and for the purposes set forth.

Third, the combination of the separator *l m*, Fig. 2, with the pounder B, as and for the purposes described.

**68,922.**—SETH WHEELER, Albany, N. Y.—*Permutation Lock.*—September 17, 1867.—The two spur disks which are pivoted on the bolt are connected respectively to an operating knob and index plate, by which they are adjusted to admit the passage of lugs on the lock plate, to allow the retraction of the bolt. The spur disks have segmental slots to receive the lugs when the bolt is retracted, and allow slight rotary movement in the disks. When changing the combination the projecting tooth of the spider is pressed out from between the teeth of the disk by a pin inserted through the lock plate and the index disk turned. The bolt is drawn back by direct movement of the hub in the slotted lock plate.

*Claim.*—First, the application to a sliding bolt of the toothed and notched wheels C D, having suitable indices applied to their shafts so that said wheels and indices shall move with this bolt, substantially as described.

Second, providing a concentric slot in the toothed wheel or wheels within which the lugs *b b'* may be received, for the purpose of allowing said wheels to be turned when the bolt is unlocked, substantially as described.

Third, the adjustable toothed spiders F G, or their equivalents, applied to the toothed and slotted wheels C D, in combination with the lugs *b b'*, and devices for indicating the positions of the said slots *i i'* in said wheels, when in line with said lugs, substantially as described.

**68,923.**—A. J. WHITE, Ballston Spa, N. Y.—*Lighting Factories and other Buildings.*—September 17, 1867.—A close reservoir of oil is placed in an elevated position, and by means of permanent pipes supplies the burners in various parts of the establishment.

*Claim.*—In combination with an air-tight reservoir and a series of conductors therefrom, with burners attached, the cocks *h* and *i*, to operate substantially as and for the purpose described.

**68,924.**—LEVI WILKINSON, New Haven, Conn., assignor to OLIVER F. CASE, same place.—*Carriage Shackle.*—September 17, 1867.—The socket for the pin on the end of the thill iron is formed by a piece projecting forward from the axle clip, and a piece above which is secured to the other portion by a bolt and nut.

*Claim.*—The combination of the detachable block *c* and the bar *b*, when the said block itself forms a part of the bearing of the coupling, and when the whole is constructed and arranged so as to operate substantially as and for the purpose specified.

**68,925.**—AMANDUS WOEBER, Davenport, Iowa.—*Carriage Curtain Fastener.*—September 17, 1867.—The metallic stud of the curtain flap slips over the stud and is retained by the elastic flap which slips on the stud behind it.

*Claim.*—First, providing a rubber flap, with eyelet hole attached outside and over metallic eyelet, substantially in the manner and for the purpose as herein described.

Second, the rubber flap, with hole, as attached and arranged, in combination with metallic eyelet and curtain knob or button, substantially in the manner and for the purpose as herein described.

**68,926.**—JAMES F. WOOD 2d, Cohocton, N. Y.—*Self-acting Wagon Brake.*—September 17, 1867.—Improvement on his patent, March 1, 1867.—The belt-rank lever is connected by a link to the tongue and by a rod to the brake bar, so as to push the brake against the wheels when the wagon pushes forward in descending a hill, and relieve it as draft is applied to the tongue.

*Claim.*—First, the forked, right-angle lever A, as constructed and connected with the tongue or pole D and the rod Q to operate the brake bar N, substantially as and for the purposes set forth.

Second, the slotted metal plate F, as constructed and attached to the pole D by the pin or bolt C to prevent the lateral movement of the pole while it allows it to move freely endways.

**68,927.**—ARTHUR WOODS, Liverpool, England.—*Hammock.*—September 17, 1867.—Explained by the claim and illustration.

*Claim.*—The hammock herein described, having the body *a b* of a rectangular section sustained transversely by the cross-pieces *f*, or their equivalents, and supported by the jib ends *e*, so as to receive the several strains and hold in shape the contents of the hammock, all substantially as and for the purpose set forth.

**68,928.**—B. F. WYMAN, Lancaster, Mass., and B. H. HARTSHORN, Ashland, Mass.—*Knitting Machine Register.*—September 17, 1867; antedated September 4, 1867.—The worm wheel is placed on the crank shaft of the machine and operates upon the teeth of the dial wheel, which, in connection with the index finger, shows the number of times that the machine has knit round the stocking.

*Claim.*—The combination and arrangement of the shaft *f*, the worm *i*, the dial *r*, the hand *s*, and the stand *p*, substantially as and for the purpose set forth.

**68,929.**—HIRAM YOUNG, Carey, Ohio.—*File.*—September 17, 1867.—Explained by the claim.

*Claim.*—A single-cut, right-and-left file, with the lines of its teeth on both sides of the blade, all in-



clining in the same direction, substantially in the manner and for the purpose described.

**68,930.**—WILLIAM YOUNGBLOOD, New York, N. Y.—*Wagon Step*.—September 17, 1867.—To the nut which screws on the end of the spindle and abuts against the hub is attached a plate, which is bent above the hub and forms a step for mounting into the wagon.

*Claim.*—First, the employment of a step or steps, secured upon the axle outside of the wheel or wheels of a wagon, and located immediately over the hub or hubs of said wheels, substantially as and for the purpose herein described.

Second, the construction and arrangement of the step D with the nut C and guard E, substantially as and for the purpose set forth.

**68,931.**—JOSEPH L. ABBOTT, North Providence, R. I., assignor to CHARLES PRATT, Brooklyn, N. Y.—*Measure for Liquids*.—September 17, 1867.—The measuring vessel has communication with the tank or exit nozzle by a three-way cock, and may be varied in size to suit the varying measure of different countries. The air escape is closed by a float valve when the vessel is full.

*Claim.*—The arrangement of the measure A, pipe I, two-way cocks J, tube K, adjustable bar D, valve H, and chamber G, as and for the purpose specified.

**68,932.**—THOMAS ADAMS and GEORGE JOHN PARSON, London, England.—*Slide Valve*.—September 17, 1867; English patent, February 15, 1866.—In the central part of the valve is a ring with an overhanging flange whose upper surface forms a fillet to work against the cover of the valve box, and has an area equal to the lower surface to balance the upward and downward pressures of steam on the ring.

*Claim.*—The slide valve constructed in such a manner that, by the aid of a ring or rings H, provided with a fillet N and recess O, the pressure of the steam on the different parts of the surfaces will be balanced, all being made and operating as herein shown and described.

**68,933.**—JACOB K. ANDREWS, New Providence, Pa.—*Window Sash Stop*.—September 17, 1867.—The beading is jointed and secured by bolts. Its detachment permits the removal of the sash.

*Claim.*—Window stops, when made in two parts, and arranged, connected, and operated substantially as described and for the purpose specified.

**68,934.**—PETER ATHERTON, Philadelphia, Pa.—*Steam Generator*.—September 17, 1867.—The bent boiler flues present their down-turned bell mouths to the fire and the caloric current passes upward into them; is deflected rearward and traverses through them to the chamber in the rear of the boiler, when it is deflected downward; is divided and passes in two streams beneath the boiler to a wall in the rear of the fire chamber, and thence follows a transverse flue which leads to the chimney.

*Claim.*—The arrangement of the bell-mounted flues B C D E F, bearing wall H, and chambers J L M, having openings N O, for the purpose of creating an increased amount of heating surface, as herein shown and described.

**68,935.**—S. J. AUSTIN, Freeport, Me.—*Baling Press*.—September 17, 1867.—The side being drawn outward and the platen lowered, the hay or other substance to be compressed is thrown into the upper end of the press box and the pulley and side operated to compress and bale the material between the platen and head block. The shaft is then turned and the arms are made to raise the platen, which, when it reaches its culminating point, completes the operation.

*Claim.*—First, the operating of the side C through the medium of the arms E applied at one end to the side C, and having their opposite ends fitted in or between suitable guides with cords or chains F attached, which are connected to a shaft or windlass G, substantially as shown and described.

Second, providing one of the journals *o* of the shaft N with an external screw thread *p* to work an internal screw in its bearings, or with an equivalent device, to give the shaft N a longitudinal movement while

being rotated, and thereby keep the chains or cords *m* in line with the arms K K K', substantially as set forth.

Third, the lips *l l' l' l'* on the bevel block J and platen I, substantially as and for the purpose herein set forth.

Fourth, the securing of the head block J in the framing B by means of the dovetail cleat *k* on the framing, fitting in the dovetail groove *j* in the upper surface of the head block, substantially as set forth.

Fifth, the metal apron P attached to the platen I, substantially as and for the purpose specified.

Sixth, the door O in the side of the press box A when used in combination with the sliding or expanding side C and the platen I, arranged substantially as shown and described.

**68,936.**—HUGH BAINES, Manchester, England.—*Apparatus for Rolling Rails*.—September 17, 1867.—Improvement on his patent December 11, 1866. The rollers act respectively upon the top, bottom, and sides of the railroad rail and have faces of such contour as to confer the required shape upon the iron passing through.

*Claim.*—The rollers P Q R and S, in combination with each other, when constructed and arranged together substantially as and for the purpose described.

**68,937.**—WILSON M. BAKER and JOHN HISNER, Urbana, Ohio.—*Portable Sheep Shed*.—September 17, 1867.—The shed is mounted on wheels. The middle portion of the roof is removable to admit hay into the rack. The feed trough is raised to the store trough and the grain allowed to flow from the latter by bringing together the holes in a sliding and a fixed bottom. A part of the side boards are pivoted for the purpose of ventilation.

*Claim.*—First, the combination of the overlapping boards G G G and catches *g*<sup>2</sup> *g*<sup>3</sup>, arranged as described, and forming a detachable roof for a portable sheep shed, as set forth.

Second, the arrangement in a portable sheep shed of the pivoted side boards R and closing bars S, as and for the purpose explained.

Third, the rack H, constructed as herein described, and extending longitudinally through the central part of the shed, in combination with the shed, substantially as and for the purpose herein set forth.

Fourth, the combination of the arms L, cords M, and shafts N, with each other and with the feeding troughs K and frame of the shed, substantially as herein shown and described and for the purpose set forth.

**68,938.**—WILLIAM H. BANCROFT and WILLIAM L. WARD, Portland, Wis.—*Steam Engine*.—September 17, 1867.—Steam is admitted alternately on each side of the partition in the double cylinder, and when the pistons, acting therein, uncover the ports leading to the single cylinder, steam is admitted thereto at one end from one of the twin cylinders and exhausted from the other end of the same through the other twin cylinder.

*Claim.*—The combination of the first cylinder B having a central partition B' and the main cylinder C with their respective pistons, said cylinders being constructed as to their ports and arranged in relation to one another and to said pistons, substantially as described.

**68,939.**—JOHN BAYLISS, New York, N. Y.—*Tuyere for Furnaces*.—September 17, 1867.—Improvement on his patent August 7, 1866. The air blast passing to the tuyere is warmed in passing through the chamber. The tuyere is surrounded by a water jacket, which connects with the reservoir by two pipes, through which a circulation is established.

*Claim.*—The chambered tuyere A, in combination with a water reservoir and air chamber and suitable water and blast pipes, all constructed and arranged substantially as described.

**68,940.**—JOHN F. BOYNTON, Syracuse, N. Y.—*Fire Extinguisher*.—September 17, 1867.—The reservoir is charged with a saline solution and compressed air, and the portable vessel is charged therefrom. The saline matter is such as will incrust upon burning matter, and produce in the fire gases unfavorable to combustion.

*Claim.*—First, the method herein described of



charging portable vessels with saline water and compressed air or gas, for use in extinguishing fires, substantially as set forth.

Second, the portable vessel B, charged with saline water and compressed air or gas, substantially as described, for the purpose of extinguishing fires, as set forth.

Third, in combination with the cylinder A, portable receiver B, the connecting pipes C and D, cocks 1, 2, 3, and 4, and any suitable pump for charging said cylinder A with compressed air or gas, all constructed and arranged substantially as described.

**68,941.**—CHRISTIAN H. BRADY, Mount Joy, Pa., assignor to himself and WILLIAM BRADY.—*Corn Sheller*.—September 17, 1867; antedated September 10, 1867.—The case is fastened to a table or bench, and has a spout on its lower edge. Within it revolves a frame of two rim wheels, which shell the corn from the cob while the ear is passing through.

*Claim.*—The combination of the revolving frame B, as constructed and provided with the spring plates H H with the stationary case A, provided with spout a and projection b, as and for the purpose set forth.

**68,942.**—EDWIN L. BRADY, New Orleans, La.—*Lubricating Oil*.—September 17, 1867.—Fish oil is mixed with an equal quantity of water, which holds in solution sulphur, quick lime, borax, and carbonate of soda, with the addition of a little ammonia.

*Claim.*—A combination of the various substances, to wit, oil, water, spirits of ammonia, carbonate of soda, quick lime, and sulphur, used to make the compound clarified and saponified lubricating oil known as Brady's oil.

**68,943.**—ISRAEL F. BROWN, New London, Conn., assignor to E. F. BROWN, same place.—*Fruit Box*.—September 17, 1867.—The blanks are scored with a saw bent around at the kerfs to form the corners; the ends, being made to lap past each other, are fastened by pieces of sheet metal somewhat similar to a paper clip.

*Claim.*—First, the fastening B, in combination with the bottom G and sides H, as herein set forth for the purpose specified.

Second, the bottom G to the box, applied thereto substantially as and for the purpose described.

**68,944.**—N. H. BRUCE, Forge Valley, Westford, Mass.—*Foot Warmer*.—September 17, 1867.—The base piece has a socket for the lamp, which is placed or removed while the hinged top piece is oscillated on its hinges. The flame heats the plates on which the feet of the person are placed.

*Claim.*—The construction and arrangement of the perforated base A, having the socket B, lamp C, hinged casing D, inclined covered plate E, with central opening H, in which are secured the sheet metal plates I, as herein shown and described, for the purpose specified.

**68,945.**—JAMES D. BRYSON, Newcastle, Pa.—*Water Wheel*.—September 17, 1867.—When the annulus is turned to project the arms, the gates are opened simultaneously and the inlet spaces enlarged. The contrary motion withdraws the pressure and allows the gates to close by the pressure of water in the surrounding casing.

*Claim.*—First, the combination in a turbine water wheel of the adjustable gates or shutes D and adjustable buckets or issues B', whereby the area of the issues may be varied to correspond with the regulated capacity of the inlets or shutes.

Second, in combination with the above, the slotted adjusting arms I I, applied so as to open the gates simultaneously and permit them to close independently, so as to prevent the obstruction of one or more gates from interfering with the operation of the remainder.

Third, the combination with the adjustable buckets B' of the adjusting staff or screw L L' and swivel U, applied and operating substantially as described.

Fourth, the combination of the staff or screw L L' and swivel U, hollow slotted spindle E, jointed arms N, and ring or collar M, arranged as described, and operating so as to permit the buckets to be adjusted while the wheel is in motion, as set forth.

**68,946.**—EDWARD BUCKLIN, Jr., North Providence, R. I., assignor to FREDERICK A. SOULE, Dixon, Ohio.—*File Cutting Machine*.—September 17, 1867.—The hammer and chisel stock are lifted by cams, while the spring maintains the holder in contact with the blank, which is fed beneath it. The chisel descends into place before the hammer falls, the blow being given by the force of a spring.

*Claim.*—First, the combination of the bent arm D, hammer G, and set screw F, arranged substantially as described.

Second, the combination of the bent hammer G, provided with downwardly bent arms G<sup>1</sup> G<sup>2</sup>, spring H, bent arm I, set screw H<sup>1</sup>, having a handle I<sup>1</sup> with the bent arm D secured on the adjustable plate C, substantially as described.

Third, the adjustable hollow block J, provided with a metal cap J<sup>2</sup> on one side, forming the bearing for the chisel stock K and holder K<sup>1</sup>, substantially as described.

Fourth, the chisel stock K, with a round top part k, a shoulder k<sup>2</sup>, and hollow three-sided part k<sup>1</sup>, in combination with the holding device K<sup>1</sup>, substantially as described.

Fifth, the combination of devices substantially as herein described, by which the chisel is elevated and brought down upon the file blank previous to the descent of the hammer upon the end of the chisel stock.

Sixth, the device for elevating and releasing the chisel and for holding the blank upon its bed, consisting of the toothed wheels L<sup>1</sup> M<sup>1</sup> cam M<sup>2</sup>, lever l, shoulder l<sup>2</sup> on the chisel stock K, and springs n and h, and holder K<sup>1</sup>, substantially as described.

Seventh, the device for operating the feed screw, consisting of the tappet O<sup>2</sup>, adjustable slide a, projection a<sup>1</sup> on the square rod a<sup>2</sup>, pin b<sup>1</sup>, inclined slot b<sup>2</sup> in the loose plate b<sup>3</sup>, pawl c<sup>2</sup> and c<sup>3</sup>, and ratchet wheel c<sup>1</sup>, secured to the shaft c, substantially as described.

Eighth, the device for moving the file bed, consisting of the handle e<sup>2</sup> on shaft d, provided with the square part e<sup>1</sup>, set screw e<sup>3</sup>, lugs f<sup>1</sup>, pivoted arm f, one end of which is provided with a cap f<sup>2</sup>, having a female screw thread on its inner face, the other end being forked and holding the pivoted swinging piece f<sup>3</sup>, substantially as described.

**68,947.**—DANIEL BULL, Amboy, Ill., assignor to himself and J. B. BOOKER.—*Door and Blind Fastening*.—September 17, 1867.—The bolt fastening is applied to one door, and when the other door closes upon it the bolt cannot be dislodged.

*Claim.*—First, the construction of the spring door fastening, for the purpose described, with the self-adjusting latching nose having a lip or locking projection formed on it, substantially as described.

Second, the spring door fastening for double doors, which, when both doors are shut, will be locked and held firmly in place by one of the doors, substantially as described.

**68,948.**—DANIEL BULL, Amboy, Ill.—*Table Attachment for Bedsteads*.—September 17, 1867.—The frame swings in a horizontal plane and may support a table for sick-bed accessories or a reading desk whose inclination is adjustable.

*Claim.*—First, the combination of an adjustable table B with a swinging support A, constructed and adapted to operate substantially as and for the purposes described.

Second, pivoting the table B to the bar c of the support A so that said table can be adjusted and set in a horizontal plane, and also inclined at pleasure, substantially as described.

Third, in combination with the support A, constructed as described, the pivoting of the table B to a pivoted bar g at one end and to the curved portion b at the other end, substantially as described.

**68,949.**—C. K. BURKHOLDER and HENRY LEREW, York Springs, Pa.—*Machine for Rounding Fly-Net Straps*.—September 17, 1867.—The thong passes between notched guide bars and is exposed to two gouge-shaped cutters which round off the corners as the thong is drawn through.

*Claim.*—The combination of the notched knives D J and guides E I, arranged and operating substantially as described.



**68,950.**—GEORGE E. BURT, Harvard, Mass.—*Horse Rake.*—September 17, 1867.—The draft of the horse in propelling the rake, in conjunction with the weight of the operator, holds down the teeth of the rake with a gradually increasing force as the hay accumulates in front of the teeth. The operator is able to adjust the pressure on the teeth to heavy or light crops.

*Claim.*—First, in combination with the teeth *m*, axle *O*, and arm *J*, a toggle joint formed by the levers *C* and *B*, acted upon by the weight of the driver riding upon a seat resting upon the joint in such manner that as the teeth are drawn back the toggle joint shall be straightened and the weight of the driver be made to act upon the teeth, with a correspondingly increased downward pressure, substantially as set forth.

Second, the combination of the shafts *D*, arm *F*, levers *H* *E* *B* and *C*, arm *J*, and axle *O*, substantially as set forth.

Third, the combination of the teeth *m*, axle *O*, and clamp *I*, when respectively constructed and arranged substantially as set forth.

Fourth, the combination of the shafts *D*, arm *F*, axle *O*, and teeth *m*, substantially as set forth.

Fifth, the arm *J* on one side of the axle, in combination with the arm *F* on the other side thereof, when connected with the shafts *D*, one directly and the other through intermediate levers *H* and *E* or *C* and *B*, so arranged that the draft upon one and pressure against the other arm shall unite to turn the axle towards and hold down the teeth, substantially as set forth.

**68,951.**—GEORGE J. CAPEWELL, West Cheshire, Conn.—*Carriage Attachment.*—September 17, 1867.—The roller fenders are adjusted by set screws that engage in the curved slots of the plates in which the fenders have their bearings.

*Claim.*—First, a holder or plate *B* for the fender rollers *A*, made of such a form as to act as a step to the wagon or other vehicle, substantially as described.

Second, securing the fender-roller holders *B* to the vehicle in such manner that the rollers can be adjusted without detaching the holders, substantially as described, for the purpose specified.

Third, the washers *F* at the ends of the rollers *A*, for the purpose described.

**68,952.**—HENRY CARTER, Taunton, Mass.—*Composition for Imitation Wood.*—September 17, 1867.—Composed of saw-dust and glue, with the addition, if desired, of filings or turnings of metal.

*Claim.*—First, making imitation wood by combining saw-dust and glue, substantially as herein shown and described.

Second, the above in combination with metal dust and shavings, substantially as herein shown and described.

**68,953.**—JOHN M. CAYCE, Franklin, Tenn.—*Invalid Spittoon.*—September 17, 1867.—The top is diametrically hinged, and the lid is raised by a lever within a radially projecting case; the lever is depressed for that purpose by a hand knob.

*Claim.*—A spittoon having the lid *B*, in combination with the lever *D* working in the handle *C* and operated by the button *d'*, substantially as and for the purpose specified.

**68,954.**—EDWARD M. CHAFFEE, Providence, R. I., assignor to GEO. L. PORTER, Washington, D. C.—*Bed Pan.*—September 17, 1867.—The pan is formed of rubber and is inflated by a flexible mouth tube. It has a cavity and a closable passage for the excrement.

*Claim.*—The pipe *A*, with supplemental chamber *a*, outlet pipe *B*, tube *C* with mouth piece and valve *g*, when arranged and operating in the manner substantially as and for the purposes specified.

**68,955.**—JOHN OSBORNE CHRISTIAN, Manchester, England, and JOHN and HENRY CHARLTON, Strangeways, England.—*Manufacture of Magnesium.*—September 17, 1867; antedated September 15, 1866.—Instead of treating carbonate of lime with sulphuric acid to obtain carbonic acid for aerating water, carbonate of magnesia is used, which gives, as a valuable residuum, sulphate of magnesia. Magnesia is also substituted for lime in the process of distilling tar water and the manufacture of ammonia. Dolomite

is also treated with sulphureted hydrogen to obtain a result producing sulphate of magnesia.

*Claim.*—First, producing sulphate of magnesia or other salts of magnesia during the process of generating carbonic acid gas, or of distilling tar water, or of manufacturing ammonia or its salts, substantially as herein set forth.

Second, treating dolomite or other magnesian compounds with sulphureted hydrogen, substantially as and for the purpose described.

**68,956.**—D. B. COBB, Jersey City, N. J.—*Attaching Door Knobs.*—September 17, 1867.—The neck of the knob fits into a socket of the shank, and the end of the latter is secured by a screw nut on the bulb of the knob.

*Claim.*—The metallic shank *B* provided with the socket *C*, in connection with the nut *E*, or its equivalent, and the knob *D*, all arranged substantially in the manner as and for the purpose set forth.

**68,957.**—S. COIN, Cazenovia, N. Y.—*Horse Power.*—September 17, 1867.—The links for the reception of the track rest by rollers upon and under projections on the flange of the horn wheel. The said projections enter socket in the periphery of the wheel.

*Claim.*—The flange *C* to the horn wheel *A*, substantially as and for the purpose described.

Also, the links *F*, constructed substantially as and for the purpose described.

**68,958.**—ISAAC COOK, Haynesville, Mo.—*Combined Hoe and Rake.*—September 17, 1867.—The hoe and rake are attached separately or together in the cap that is secured by a screw bolt.

*Claim.*—The cap *a*, secured by the screw bolt *b* to the handle *A*, through the side strips *a' a'*, for attaching a hoe and rake, together or separately, with the screw bolt *c'* and the pins *d d*, substantially as herein described.

**68,959.**—A. W. CRAMER, Bethany, Pa., assignor to himself and WILLIAM D. BROOKS, same place.—*Adjustable Track for Conveying Loads by Gravity only.*—September 17, 1867.—The track rope is adjustably secured at each end of the route and its inclination varied according to the direction the load is required to travel.

*Claim.*—First, the track *H* in combination with the track *B*, formed by a wire or rope adjustably suspended at one end, that its inclination may be reversed substantially in the manner set forth.

Second, the combination of the track *B* formed by a wire or rope, the sheave *C*, axle *D*, eye *F*, and cord *G*, arranged to reverse the inclination of the track, substantially as described.

**68,960.**—JAMES F. CRANSTON, Springfield, Mass.—*Priming Metallic Cartridges.*—September 17, 1867.

—The anvil abutment is braced against a circumferential contraction of the side. The fulminate is placed between the anvil and back plate.

*Claim.*—A center fire cartridge in which the anvil is constructed with a square face *A*, and spring braces *C C'*, fastened in by the flange or groove *e e*, and bridging over the cavity *b*, in such a manner as to form the opening *a f g h*, substantially as set forth.

**68,961.**—L. L. DAVIS, Springfield, Mass.—*Adjustable Spirit Level.*—September 17, 1867.—A broken "bubble" may be readily replaced. The inclination from the horizontal may be read in degrees or in linear measurements. The ring is adjusted for plumbing vertical surfaces, or leveling surfaces, by the movable ring and its set screw. Inclination from these positions is indicated by a circular scale and index.

*Claim.*—First, the semi-circular bubble case *c*, when constructed or cast in one piece, and having the aperture or space *l* for the insertion of the bubble glass *k*, and the space *c'*, substantially as herein described and set forth.

Second, the ring *C*, having a dovetail flange around its periphery and working in the dovetail socket *A'*, when made substantially as herein described and set forth.

Third, the ring *C* in combination with the dovetail socket *A'*, the set screw *g*, the frictional screw *g'*,



and the bubble case *c*, when made substantially as herein described and set forth.

Fourth, the elevating screw *j* and index *i*, in combination with the base *A*, socket *A'*, ring *C*, and bubble case *e*, when made substantially as herein described and set forth.

**68,962.**—W. H. DAVIS and R. H. WAGOR, DOWAGIAC, Mich.—*Sheet Metal Pan Former*.—September 17, 1867.—The sheet of metal is placed on the table beneath the die, which is then forced down by means of the lever, and the sheet is forced into the box top of the table, until the bottom of the plate rests upon the bed.

*Claim.*—First, the lever *H*, brace *D*, shaft *I*, former *F*, and guide rods *P P*, in combination with the box *A*, as described and for the purposes set forth.

Second, the arms *M M*, rod *L*, and spring *a*, in combination with the box *A*, as described and for the purposes specified.

**68,963.**—EPHRAIM and ZEDEKIAH DAWSON, and BRICE HILTON, Brunersburg, Ohio.—*Balancing Millstones*.—September 17, 1867.—T-headed bolts enter recessed vertical slots in the stone, and serve for attachment of the longitudinally-slotted balance plates.

*Claim.*—The above described arrangement of the balances *B* and *D*, and the horizontal and perpendicular adjustment thereof, as and for the purposes herein set forth.

**68,964.**—HENRY O. DEMAREST, New York, N. Y.—*Boiler Feeder*.—September 17, 1867.—When the water has sunk in the generator beneath the mouth of the steam pipe, steam passes into the chamber which is depressed. Simultaneously with the opening of the cock of the water pipe the water enters the upper chamber. The communications are through the hollow, oscillating lever to which the chambers are connected, and the trunnion heads in which it works, and the ports are adjusted in connection by the oscillation of the lever, caused by the gravity of water in the chamber which may be at the time elevated.

*Claim.*—First, the arrangement of the lever *D*, heads *E E'*, and washer *e'*, substantially upon the principle and in the manner herein set forth.

Second, the arrangement of the chambers *A* and *A'*, lever *D*, heads *E E'* and *E''*, nut *e*, screws and washer *e'*, discharge pipe steam pipe *C*, and the injector pipe *B*, constructed and combined substantially as hereinabove set forth.

**68,965.**—FRIEDRICH DENZLER and JACOB MILLER, Brooklyn, N. Y.—*Manger*.—September 17, 1867.—The mangers and feed boxes are arranged to be opened automatically by clock-work at the required times, not requiring attention after having been filled and closed in advance of feeding time.

*Claim.*—First, connecting the trap doors of the mangers, feed boxes or troughs with clock-work in such a manner that the said doors can be simultaneously opened at any desired time substantially as and for the purpose herein shown and described.

Second, the disk *i* on the arbor of the clock-work *C*, in combination with the lever *D k l* and *F*, the latter being connected with the door or doors of the mangers, troughs or feed boxes, substantially in the manner herein shown and described.

Third, the hinged bottom *r* of the feed box *H*, in combination with the catch *s* and swinging hook *t*, the latter being connected with the clock-work *C*, substantially as herein shown and described.

Fourth, the weighted cover *a* of the trough or manger *A*, in combination with the catch lever *B* which is connected with the clock-work *C*, substantially as and for the purpose herein shown and described.

**68,966.**—THOMAS DE WITT, Detroit, Mich.—*Carriage Spring*.—September 17, 1867.—Short springs with upper coils rise from the axle, and to their ends is attached the curved spring plate whose downward motion is limited by the studs on the axle.

*Claim.*—A carriage spring composed of the parts *B B C*, connected together and used in connection with the studs *d d*, arranged in relation with said parts, substantially as herein shown and described.

**68,967.**—GEORGE H. DIMOND, Bridgeport, Conn.—*Spring for Fastening Blind Slats*.—September 17, 1867.—The flexible cup is slipped over the tenon of the slat, and binding between the shoulder of the slat and the side of the stile, holds the blinds in position.

*Claim.*—A slotted concavo-convex discoidal-shaped spring, constructed substantially as described, for the purpose of locking turning slats in position, as set forth.

**68,968.**—FRANCIS H. DUC, Charleston, S. C.—*Ice Cream Freezer*.—September 17, 1867.—The cream cylinder has conical ends; one, to which the handle is attached, is removed when filling, the other end has a hollow journal for traverse of a fixed shaft, having a wing acting on the cream as the cylinder rotates. The wing shaft admits of turning by a cross handle to feel the state of the cream.

*Claim.*—First, the revolving cylinder *D* when provided with the removable head *E*, shaft *F* and wing *G* on the latter, the said shaft and wing serving as an indicator for ascertaining the state of the contents, substantially as herein shown and described.

Second, the above in combination with the box *A*, having a hinged cover *C*, in which another central cover *K* is arranged, substantially as and for the purpose herein shown and described.

**68,969.**—THOMAS A. DUGDALE, Richmond, Ind.—*Hand Loom*.—September 17, 1867; antedated September 7, 1867.—When the lay is drawn toward the operator a catch on a spring lever engages a ratchet on the harness-operating wheel, and when the lay is moved away the wheel is turned. An incline upon the wheel throws out one of the picker staffs. Other inclines on the same wheel operate the treadle.

*Claim.*—First, the wheel *K*, for operating the picking and harness mechanism, the said wheel being formed of the flanges *U U V V* and ratchets *T*.

Second, the combination of the wheel *K*, hook *L*, and pieces *M M* with the lay *B*.

Third, the combination of the wheel *K* and sliding pieces *P P*, and shafts *A<sup>2</sup>* and *A<sup>5</sup>*, and springs *S S*, when arranged, constructed, and operated substantially as and for the purposes described.

**68,970.**—JOSEPH F. EMMERT, Quincy, Pa.—*Carriage Jack*.—September 17, 1867.—The step is raised on the ratchet bar till it touches the axle, the lever being in its lower position. The oscillation of the lever raises the rack and step, and when the handle is vertical the parts are locked in elevated position.

*Claim.*—The construction and arrangement of the slotted stand *A*, in which the toothed sliding lift bar *B*, provided with the slide piece *D*, works the lever *C*, pivoted to the lug *h* at the bottom of the standard *A*, and to the lower end of the link *d*, whose upper end is pivoted to the lug *e* of the left bar *B*, working in the slot *g* of standard *A*, substantially as described for the purpose specified.

**68,971.**—FRANCIS B. FANCHER, Lansingburg, N. Y.—*Gardening Tile for Bordering*.—September 17, 1867.—The vertical border has a horizontal foot and is secured by a tongue and groove attachment at its points of connection.

*Claim.*—Constructing garden tile for borders with right angled wings united by lap joints or tongue and groove, substantially as and for the purpose herein shown and described.

**68,972.**—L. B. GATES, Bane Centre, N. Y.—*Device for Rounding Lines*.—September 17, 1867.—The rolls have graduated circular apertures between, and the upper one is carried in a frame pivoted so as to be adjustable in distance from the other roller.

*Claim.*—The spring *H H* in the frame *A*, for securing the swinging frame *D*, when constructed with its rollers *G* and *J* and combined with the roller *E*, the whole operating in the manner and for the purposes specified.

**68,973.**—JOSEPH GERDOM, Jr., West Albany, N. Y.—*Chair, Lounge, and Step Ladder*.—September 17, 1867.—The upper section of the ladder doubles at its hinged connection over the lower, and the rear legs with their braces form the back and elbows of the chair. By an extension of the frame a lounge is formed.



*Claim.*—In the chair and step ladder combined, as described, the arrangement of the additional piece *h'* with its leg *h''*, forming a lounge, and the fastening wires *l l*, substantially as described for the purpose specified.

**68,974.**—SAMUEL GIBBONS, Binghamton, N. Y.—*Still for Refining and Distilling Oils.*—September 17, 1867.—The oil is introduced into the still through the pipe, and rising in the chambers floods the bottom of the still. Heat is applied to the under side of the still and the chambers, and the superheated steam is introduced through the pipe, and jets through the perforations of the cross-pipes. The steam being forced through the oil in small jets agitates and assists in vaporizing it and regulates the temperature.

*Claim.*—First, the still or retort A, in combination with the chambers B B, constructed and arranged in the manner and for the purpose set forth.

Second, the use of the pipe C, provided with a series of cross-pipes, or their equivalents, in combination with the still A, as and for the purpose set forth.

Third, the arrangement of the pipe D, chambers B B, and still A with the steam pipe, constructed and used as and for the purpose specified.

**68,975.**—ALFRED GIFFORD and ISAAC SERIGHT, Milroy, Ind.—*Ditching Machine.*—September 17, 1867.—The depth to which the knives penetrate is regulated by the set screws. The earth is taken up by the shovel after being cut by the knives, is deposited on and carried off by the shield, and discharged alongside the ditch.

*Claim.*—The arrangement of the knife K, wheel C, with its circular knife scraper *b*, and horizontal adjustable frame, regulated by the screws *g g*, and provided with the plate D, when used in the manner and for the purposes herein specified.

**68,976.**—E. C. GODDARD, Unionville, Ohio, assignor to himself and A. BAILEY, same place.—*Portable Field Fence.*—September 17, 1867.—The panels are attached longitudinally by the extension bars that engage with the posts of the adjoining panel. The fence is braced laterally by inclined stakes; a transverse bar connecting the feet of the stakes supports the panel.

*Claim.*—The herein-described construction and arrangement of fence to form water-locking sections, straight and irregular lines and gateways, by the combination of the oblique slats C C with interlocking panels A' B' and posts conjointly.

**68,977.**—N. W. GODFREY, Locust Valley, N. Y.—*Dumping Cart.*—September 17, 1867.—The sections of the drop bottom are pivoted to transverse bars, and are closed by the crank shaft to which they are attached by chains. The bolt arresting the retrograde motion of the crank being removed, the load automatically dumps itself. The movable screen is braced against the ends of the box.

*Claim.*—A cart or wagon having its bottom made in sections and hung thereto with the rod, or equivalent, to which each section is connected, in combination with the screen and frame, when all constructed and arranged together, substantially as and for the purpose described.

**68,978.**—LEWIS GOODWIN and S. A. WEST, San Francisco, Cal.—*Ore Concentrator.*—September 17, 1867.—The circular, concave, grooved disk has a continuous rotary motion. The ore and water is received at the center and is carried by centrifugal force to the periphery of the disk, the heavier particles settling in the riffles. The debris is separated by the current and constant agitation, and is carried out by the sluice transversely across the disk to the center, and is discharged through openings into the stationary, circular sluice below, and the sulphurets are discharged by a plow at the periphery of the disk into another stationary, circular sluice below.

*Claim.*—First, the concave rotary pan A A with circular riffles *g g g g g g g g*, having an elevation toward the periphery of the pan, substantially as and for the purposes described.

Second, the discharge box E, receiving the discharge at the periphery, and discharging toward the center, having teeth or agitators attached to it for operating in the riffles and movable bar L, to act on

the pulp and water and the gate F, for cutting off the discharge, substantially as described.

Third, the plow O, valve 4, spring 5, cams K and J, or their equivalents, substantially as described for the purpose set forth.

Fourth, the stationary circular troughs R, for receiving the sand and debris, and G, for receiving the sulphurets, and the scrapers N, attached to the rotary pan, and working within the troughs R and G, substantially as described.

Fifth, the above-described parts, when employed separately or in combination, for the purposes specified.

**68,979.**—JAMES GORDON and JOHN ARCHBOLD, San Francisco, Cal.—*Barometric Vacuum Exhauster.*—September 17, 1867.—A vacuum is obtained on the Torricellian principle by charging a tube and receiver with water from which the air has been eliminated and allowing the water to flow from the lower exit of the pipe. The chamber thus exhausted is connected with fruit cans, &c., to remove the air therefrom.

*Claim.*—The combination of the closed water-purifying and supply cistern H with one or more air-exhausting chambers A A, which are combined with one or more tubes or barometric columns B B, all substantially in the manner herein represented and described.

**68,980.**—SIMON P. GRAHAM, Richland Center, Ind.—*Construction of Carriage Bodies.*—September 17, 1867.—The sides, back, and seat are made separately, of sheet metal, struck up or pressed by dies, and united by flanges and rivets.

*Claim.*—A carriage-body made of sheet metal, formed in parts or sections connected together in the manner shown and described, as a new article of manufacture.

**68,981.**—DAVID HANNA, Hornellsville, N. Y.—*Washing Machine.*—September 17, 1867.—The heads of the slatted cylinder are perforated, and the clothes, having been revolved in the cylinder the requisite time, are squeezed between the follower and one end of the cylinder, the follower being operated by an axial screw.

*Claim.*—The cylinder B, covered with slats *e e e e*, constructed in the manner described, when combined with a movable head or follower D, and an adjustable screw E, nut journal E, thumb screw *f*, and operated by a crank *c*, in the manner herein described, for the purposes set forth.

**68,982.**—W. R. HARMON, Union Port, Ohio.—*Shovel Plow.*—September 17, 1867.—The shovel is preceded by an adjustable shoe, to open the furrow and reduce the strain on the shovel. The elongated clevis is attached at the foot of the handles and is adjusted on the vertical end of the beam. The combination is formed by removing the inside handles and securing the frame together by rods.

*Claim.*—First, the combination of the shoe E and shovel F, when the same are so arranged that the shoe E presents its entire face to the ground and projects sufficiently far beyond the point of the shovel, not only to protect and guard the same, but also to free the shovel from all labor and strain in opening the furrow, substantially as shown.

Second, the combination of the rods C C, guide plate D, and bolt *c*, for regulating the depth of cut of shoe, substantially as described.

Third, the arrangement of the rods C C, guide plate D, and bolt C, so that the same can be applied to a single or double plow, substantially as described.

Fourth, the combination of the curved beam A, shoe E, and shovel F, when the same are connected and arranged substantially as described.

Fifth, the combination of the beam A, shoe E, shovel F, rods C C, and guide plate D, when the same are arranged and operated substantially as described, and for the purpose set forth.

Sixth, the self-adjusting clevis G, secured to the rods C C, substantially as described, and for the purpose set forth.

**68,983.**—L. D. HARVEY, Harvey, Mich.—*Wagon.*—September 17, 1867.—The frame of the tongue hounds, with the tongue mortise and step socket,



consists of one piece of cast iron; the socket of the rear hounds on the coupling pole is also a single casting.

*Claim.*—Making the tongue hounds A A, with the cross bar *a* and tubular head *b*, all out of one solid piece, substantially as and for the purpose described.

**68,984.**—CLIFTON HELLEN, Washington, D. C.—*Egg Cup and Tongs.*—September 17, 1867.—The two leaves formed to grasp an egg are connected by springs to the stand, and have perforations for reception of the teeth of the tongs by which the cup is raised.

*Claim.*—The adjustable metallic egg cup A, with its spring point B and base C, combined with the tongs D, as herein described and for the purposes set forth.

**68,985.**—WILLIAM D. HOOPER, Liberty, Va.—*Cupping Apparatus.*—September 17, 1867.—The tubular blades remain in the flesh while the cupping is being performed, to form a channel for the passage of the blood.

*Claim.*—First, cupping device, having a series of tubular blades arranged to operate substantially as shown and described.

Second, in combination with the cup A, the detachable mouthpiece E, having holes for the blades to operate through as set forth.

Third, the combination of the mouthpiece E, plate D having the blades *f* attached thereto, and screw *b*, when arranged for joint operation as described.

**68,986.**—JAMES HOTCHKISS and EZRA BUSS, Springfield, Ohio.—*Brick and Tile Machine.*—September 17, 1867.—The reciprocating plunger moves in a close box, and at every forward movement drives the clay out through a die, in a form to cut up into proper lengths as bricks or tiles. The clay is fed from the pug mill to the plunger box.

*Claim.*—The extension of the pug-mill shaft C down through the plunger box, and providing it with a crank G, or its equivalent below, so as to drive the plunger thereof, substantially as herein specified.

Also, the solid division strip Q, separating the plunger box into the compartments M M, and in connection therewith the division of the plunger L into two parts striding the said division strip and the pug-mill shaft, substantially as herein set forth.

Also, the extended plunger beam I and connecting rod H, pivoted to the outer end of the said plunger beam, arranged and operating together substantially as and for the purpose herein specified.

**68,987.**—HENRY HOWARD, Springfield, Mass.—*Apparatus for Heating Water and Generating Steam.*—September 17, 1867.—The reservoir forms a fire bridge or partial division wall, the tubes communicate with the reservoir, and are so disposed as to form the grate, the sides of the fire box, and the flues.

*Claim.*—First, an apparatus for heating water or generating steam, consisting of one or more double tubes A and B, constructed as described, and combined with a water reservoir, substantially as and for the purpose set forth.

Second, arranging these tubes in such a manner as to form a grate and fire box, and flues for the passage of the flames and heated air.

**68,988.**—TILGHMAN A. HUFFER, Indianapolis, Ind., assignor to himself and JOHN F. DURFELD, same place.—*Rein Holder.*—September 17, 1867.—The plate is attached to the dash-board, and the rein is held by winding it between the interlocking springs.

*Claim.*—The combination of the plate A, interlocking springs *a a a a*, or their equivalent, and the screws *b b*, in the manner substantially as and for the purpose herein set forth.

**68,989.**—NATHAN HUNT, Salem, Ohio.—*Engine Piston.*—September 17, 1867.—The peripheries of the piston head and the follower are beveled to leave an annular space inside the rings, which are expanded by the steam on the upper and lower sides of the piston alternately as it moves back and forth in the cylinder.

*Claim.*—The construction and arrangement of the L-shaped packing rings D, whose inner projections

rest against each other, and are inserted in the space between the piston head A and follower C, holding the packing rings E in position, said piston head and follower, provided with inclined recesses *e* upon their peripheries to admit the steam behind the rings B and E, alternately at each upward and downward stroke of the piston, as herein shown and described.

**68,990.**—JAMES H. JONES, Williamsport, Pa.—*Cheek Hook.*—September 17, 1867.—The cheek rein passes around a concave roller on the shank, and above the roller is a backwardly-turned horn-shaped hook.

*Claim.*—The smooth concave roller C, placed upon the hook A, with its screw B, in the manner herein described and for the purposes set forth.

**68,991.**—DANIEL KAUFMAN, Boiling Springs, Pa.—*Fence.*—September 17, 1867.—The fence is supported on inclined braces, whose ends are bolted to shoe plates, and which may be attached to foundation pieces.

*Claim.*—The shoes D, constructed substantially as herein shown and described, in combination with the lower ends of the inclined braces or supports B, as and for the purpose set forth.

**68,992.**—G. B. KEELER, Port Chester, N. Y.—*Hoisting Apparatus.*—September 17, 1867.—The motive shaft has a pulley connected by a belt to a loose pully on another shaft, which has a barrel fixed to it and a loose conical drum. A belt connects the drum to a barrel of the former shaft. The loose pulley has a pinion arbored eccentrically upon it, which engages crown gear on the end of the loose drum, and acts as a planet wheel to another fixed to the shaft.

*Claim.*—The combination of the shafts D and F, having drums, pulleys and pinions, and constructed substantially as and for the purpose described.

**68,993.**—JOHN KERNS, New York, N. Y.—*Hose Coupling.*—September 17, 1867.—Two semi cylindrical jaws are pivoted to the end of one section of hose, and these jaws have each an inner semi-annular projection, taking over an annular rib upon the collar of the other end. The jaws are expanded by the entering rib and drawn in by springs.

*Claim.*—First, the combination of the tube A, jaws *a a*, with hooks *b b*, springs *d*, tube B, with shoulders *e*, as and for the purpose specified.

Second, the jaws *a a* on the tube A, provided with hooks *b b*, fitting into a groove in the tube D, and forced together by a spring or springs *d*, arranged between the jaws *a a* and tube A, as herein shown and described.

**68,994.**—JOHN C. KING, New York, N. Y., assignor to himself and GEORGE M. WOODWARD, of same place.—*Mechanism for Operating the Valves of Force Pumps.*—September 17, 1867.—The steam and pump cylinders have diaphragms at midlength, are connected together and move on their respective heads, through which the steam and water respectively are admitted. Attached to the moving cylinders are rods which actuate the steam and water valves respectively.

*Claim.*—The rods J J, by which the cylinders H H' are connected, in combination with the cross bar K, rock shaft M, oscillating bar L, box *g h i*, and crank shaft N, all made and operating substantially as and for the purpose herein shown and described.

**68,995.**—MORITZ KOPPE, New York, N. Y.—*Injector for Insect Powder.*—September 17, 1867.—The lower part of the receptacle contains insect powder, which is ejected by pressure on the thumb pin which forces down the flexible diaphragm.

*Claim.*—An injector for insect powder, composed of a vessel A, with elastic diaphragm *e*, spout *b*, spring *d*, and thumb piece *e*, substantially as and for the purposes set forth.

**68,996.**—ELIJAH LAKE, Davisburg, Mich.—*Grain Drill.*—September 17, 1867.—The seed actuating mechanism is driven by gear wheels which are clutched to the axle by movement of a lever. The openers have wings which cover the seed and rollers to press the earth to the same.

*Claim.*—First, providing the drill teeth L with



wings P, substantially as and for the purpose set forth.

Second, the use of a series of rollers C C, in combination with the winged drill teeth for packing the earth after the wings, substantially as set forth.

Third, the arrangement of the collar R, upon the shaft B, with the wheel D, and lever *q*, whereby the seed shafts are thrown in and out of gear, as and for the purpose set forth.

**68,997.**—GEORGE T. LAPE, Summit, N. Y., assignor to himself and JEPHIA LEATHE, New York, N. Y.—*Railroad Station Indicator*.—September 17, 1867.—An endless apron has upon it the names and distances of the stations, and is turned by connection with an oscillating rod which comes in contact with a projection of the track at each station. The names are exposed within the ear.

*Claim.*—First, the slides *d d*, attached to the india-rubber springs *e e*, in combination with the apron B, arranged and operating substantially as and for the purpose specified.

Second, the arrangement of the polygonal disk C, spiral springs *s s'*, tubes *p p'*, chains *q q*, rock wheel E, cam L, and apron B, as and for the purpose specified.

**68,998.**—S. S. LAVEY, Plymouth, Ind.—*Chuck for Watchmakers' Lathes*.—September 17, 1867.—The chuck is adjustable in the cavity of a recessed face plate and secured in position by set screws. The inclined slide plates have matching half holes for engagement of the arbors of wheels to be turned, and fit in dovetail grooves for the chuck.

*Claim.*—The combination of the movable chuck H, with its slides J J, disk F, and hollow head, composed of cups C and D, and spring *e*, constructed and used as herein set forth.

**68,999.**—JAMES W. LAWRENCE, New York, N. Y., assignor to BREWSTER & Co., same place.—*Securing Felloe Joints*.—September 17, 1867.—A bolt traverses the joint of the felloe radially in respect to the wheel. The bolt serves also to attach metallic plates on the inner and outer side of the felloe.

*Claim.*—The T-headed bolt *e*, constructed as described, for securing felloe joints laterally and radially, substantially as and for the purposes herein described.

**69,000.**—E. T. LIGON, Demopolis, Ala.—*Submarine Plow*.—September 17, 1867.—The plow is drawn through the bar by a steamboat and a current of water forced by a pump through the center of the plow to throw up the mud and sand and induce its removal by the current.

*Claim.*—A submarine plow, constructed and operating substantially as shown and described.

**69,001.**—E. T. LIGON, Demopolis, Ala.—*Uniting Steel or Iron with Copper*.—The surface of the steel or iron is roughened and coated with borax. A plate of copper is laid upon it. The plates are then laid on an iron bed heated to about the melting point of copper and are pressed together.

*Claim.*—Uniting steel or iron and copper, substantially as described.

**69,002.**—JOHN LAZIER, Bellville, Canada.—*Spinning Machine*.—September 17, 1867.—The spool is placed in position on a carriage. The ends of the slivers are passed through between the feed and pressure rollers and made fast to the points of the spindles. The carriage is then run back, turning the sliver-feeding wheel, until a small wheel strikes a projection and stops the feed mechanism. After this the further movement of the carriage draws out the thread. A sufficiency of twist is indicated by the click. The carriage is then run forward, allowing the thread to wind on the spindles. The immediate motive power of the twisting mechanism is a weighted cord passing from the carriage to the said mechanism. Short rolls may be used by removing the spool and substituting rollers carrying endless aprons.

*Claim.*—First, mounting the carriage M on three wheels, arranged to run on the rails C and C', substantially as shown and described.

Second, providing the spinning frame with a register for determining the number of twists when said

register is arranged to reset itself automatically as the carriage is run forward, substantially as set forth.

Third, arranging the mechanism herein described that feeds the roving or sliver in combination with the carriage in such a manner that as the latter is run back the former will be automatically thrown out of operation, substantially as described.

Fourth, so arranging the devices herein described for throwing the feeding mechanism out of gear that they may be adjusted to stop the feeding sooner or later, substantially as described.

Fifth, the spiral springs *e*, arranged to operate upon the pressure rolls *b*, as described.

Sixth, providing the feeding frame with the reel G, and the two series of eyes *m* and *n*, when arranged for joint action, substantially as described.

Seventh, operating the feeding mechanism by means of its being so connected with the carriage that the moving of the carriage shall set it in motion by the unwinding of the cord *p* from the pulleys R, said pulleys being rotated in the opposite direction by means of the weight *i*, or its equivalent, when the carriage is returned, substantially as described.

**69,003.**—ISAAC B. MAHON, Dunkirk, Ohio.—*Cultivator*.—September 17, 1867.—The two sections of the frame are secured together by bolts, are connected to the under side of the axle by clips, and are supported by braces at the front and rear sides of the axle. The lateral movement of the plows is effected by pressure on the stirrup, and they are elevated by the crooked lever, to the elbow of which the beams are attached by chains.

*Claim.*—First, constructing the metallic frame of the machine in two parts C C', connected together and braced, in the manner substantially as shown and described.

Second, suspending the frame to the axle A, by clips D, arranged in connection with the braces E and the pendants *j*, to which the outer plow beams are attached, all being arranged substantially as and for the purpose specified.

Third, the doubletree U, pivoted to the draft pole T, in connection with the whiffletrees V V, pivoted to the frame of the machine and connected to the ends of the doubletree by links *r*, all arranged substantially as set forth.

Fourth, the attaching of the inner plow beams J J to the front of the frame by means of universal joints *e e*, substantially as described.

Fifth, the fender bars L L, connected with the inner plow beams J J, and universal joints *e e*, and arranged in the manner shown so that the fenders M may be set at any desired height and at a greater or less distance from the plows and have an independent up and down motion and at the same time retain their relative position with the plows, substantially as shown and described.

Sixth, the open or skeleton fenders M, when applied to the fender bars L L so as to admit of being adjusted further forward or backward on said bars, substantially as and for the purpose specified.

Seventh, the pulleys or segments *e*, on the shaft I, connected by chains *d* to the plow beams J J K K, in combination with the lever S, connected by a chain *n*, with a pulley *o*, on shaft I, all being arranged substantially as and for the purpose specified.

Eighth, the guides G G, on the shaft F, in connection with the uprights N, passing through said guides and the stirrups O, attached to said uprights, all arranged to operate substantially as described.

Ninth, the fixed guides R, attached to the frame of the machine, with the uprights Q, of the outer beams K, passing through the same, substantially as and for the purpose set forth.

**69,004.**—SAMUEL MANNING, San José, Cal.—*Fingers for Lifting Lodged Grain*.—September 17, 1867.—The curved hinged finger accommodates itself to the surface of the ground and lifts the lodged grain to the cutters.

*Claim.*—The spring A, bars C and G, with the joint D and link B, all arranged and applied to operate in the manner substantially as and for the purpose herein set forth.

**69,005.**—ALBERT MARCELLUS, Pittsford, N. Y.—*Potato Digger*.—September 17, 1867.—Improvement on his patent February 6, 1866. The plow divides



the ridges in the middle and opens them each way. The vibrating shakers are hinged to the wings of the mold board.

*Claim.*—First, the arrangement of the nose plate P, with its dividing lines vertical or nearly so and rounded, substantially in the manner and for the purposes herein shown and described.

Second, the arrangement of the wings *w* and *w'*, in combination with the uprights S, to which they are connected suitably, as and for the purposes herein specified.

Third, the detachable mold boards B B', in combination with the nose plate P, and the wings *w* *w'*, when the said mold boards are arranged with their faces or flat sides vertical or nearly so, as shown.

Fourth, hinging the shakers G and G' to the mold boards substantially as described, and vibrating them vertically, for the purposes set forth.

Fifth, the arrangement of the toothed upright S and toothed headed lever T with the friction roller *r*, ratchet *d* and its lever *f*, substantially as shown and described for the purpose of ganging and adjusting the elevation of the plow.

Sixth, the detachable point *p*, constructed and connected substantially in the manner and for the purposes herein shown and described.

**69,006.**—CASPER MARTINO, Trenton, N. J.—*Sofa and Bed Bottom.*—September 17, 1867.—The spiral springs are secured in position by metallic straps that have loops struck up for the reception of the end coils of the springs. The head is raised or lowered by the combined action of the ratchet, pawls, and spring.

*Claim.*—First, securing one or both the ends of the spiral springs B, in proper position by metallic straps C, having loops struck up out of their solid bodies for the reception of the end coil of the springs, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the ratchets F, pawls E, rod G, and spring H, with the movable part D, and with the frame A, substantially as herein shown and described and for the purpose set forth.

Third, securing the back I to the movable part D and to the frame A, substantially in the manner herein shown and described.

**69,007.**—JOSHUA MASON, Paterson, N. J.—*Liquid and Gas Meters.*—September 17, 1867.—The plunger is actuated by pressure of the liquid, and is connected to the valve by a rod sliding axially through it. The course of the liquid is directed alternately to the two ends of the cylinder, and finds exit through a stop cock. The plunger, in its reciprocation, operates a segmental rack engaging a pinion, whose shaft has a crank connected to a spiral spring. The spring tends to keep the segment to the extremes of its movement. The pinion shaft is also connected to a rock shaft operating a pawl and ratchet wheel to move the index finger.

*Claim.*—First, the sliding valve E, composed of the circular disks *b b'* and the perforated plate F, and fitted within the circular chamber D provided with ports *d d' d''*, extending circumferentially all around the interior of the chamber and placed or arranged in relation with the supply and discharge pipes G I, passage H, extension chamber C, and cylinder A, to operate in the manner substantially as and for the purpose set forth.

Second, the operating of the valve E, from the plunger B, through the medium of the rods K, plates L, rod M, segment N, pinion O, and spring S, connected with the crank *k* of the shaft of the pinion O, all arranged substantially as shown and described.

Third, the combination and arrangement of the rods K, screw nut *g*, plates L, rod M, and bar J, as herein described for the purpose specified.

Fourth, the combination and arrangement of the clutch consisting of the fixed pin *a\** in the shaft of the pinion O, and the slot *b\** in said pinion with the crank *h*, spring S, slotted segment N, and plunger B, as herein described for the purpose specified.

**69,008.**—FRANCIS McLAUGHLIN, Boston, Mass.—*Brush.*—September 17, 1867.—The vulcanized rubber ferrule makes an elastic binding for the bristles.

*Claim.*—A brush made with a ferrule of vulcan-

ized rubber or its compounds, substantially as described.

**69,009.**—WM. S. MEAD, New York, N. Y.—*Mechanical Movement.*—September 17, 1867.—The crank shaft on which the fly wheel is mounted has its bearings in two rockers, the crank pins connecting by links with the fixed frame. By imparting a rotating motion to the crank shaft a double motion is imparted to the fly wheel which actuates the saw.

*Claim.*—The combination and arrangement of the wheel C, frame A, handles D, rocking arms G, fly wheel, or other equivalent body I, links *b*, pitman rods *d*, pendulum frame J, and saws K, all constructed and operated substantially as and for the purpose described.

**69,010.**—J. H. MILLER, Milwaukee, Wis.—*Weather Strip for Doors.*—September 17, 1867.—The spring hinge elevates the weather strip until its contact with the plate on the door jamb closes it against the threshold.

*Claim.*—The combination of the weather strip D, hinged to a swinging door plate H upon hinge E and projecting plate L of the door jamb, substantially as and for the purpose described.

**69,011.**—W. H. MILLER, Brandenburg, Ky.—*Combined Rake and Spade.*—September 17, 1867.—The tines are duplicated and the position of the movable ones relatively to the stationary ones is adjusted by the handle of the frame. The tool may form a spade or a rake according to the adjustment.

*Claim.*—First, the handle fastened to frame E, carrying tines, substantially as described.

Second, the triangular tines A in cross section, substantially as and for the purpose specified.

**69,012.**—JOHN W. MINOR and DAVID P. WARD, New Bedford, Mass.—*Three-wheeled Vehicle.*—September 17, 1867.—The platform is supported on a bent rear axle and a cast wheel in front that has its bearings in a swiveling cylinder to enable the car to make short turns.

*Claim.*—First, the sections of cylinders C and E, one revolving within the other, substantially as and for the purposes herein shown and described.

Second, the flange D, projecting from the rim of the cylinder for fastening on the outside and forming a lip on its inner side, substantially as described.

Third, the wheel F, attached to a three-wheeled vehicle when the said wheel is attached to a horizontal section of a cylinder which has free horizontal motion, substantially as described.

**69,013.**—HENRY MITTENDORF, York, Pa.—*Apparatus for Drawing and Preserving Malt Liquors.*—September 17, 1867.—The air pump is connected to an air reservoir which communicates with the beer barrel. Air pressure on the liquid forces it through the faucet, but does not allow the escape of gases through the bung hole.

*Claim.*—First, the herein-described mode of drawing and preserving malt liquors, cider, &c., by means of an air reservoir, substantially as set forth.

Second, the apparatus for drawing and preserving malt liquors, cider, &c., consisting of the air reservoir B, air pump C, pipes *a b* and *d*, provided with stop cocks *c* and *e*, substantially as described.

**69,014.**—E. J. MOORE, East Boston, Mass.—*Tube Expander.*—September 17, 1867.—The rollers are placed in a stock whose end is inserted in the tube. An annular cavity of the stock receives the projecting end of the tube. The tube is expanded on each side of the plate by beads upon the rollers. The rollers are rotated and forced out by the rotation and progression of a frusto-conical screw pin turned by a cross lever.

*Claim.*—The construction of the expanding rollers C, provided with beads surrounding their peripheries, the lower one of less diameter than the upper, substantially as described for the purpose specified.

**69,015.**—F. W. NEUBERT, Pittsburg, Pa.—*Truss.*—September 17, 1867.—The double pad is pivoted in the center to a link that is attached to a spring which permits it to turn freely; it may be raised or lowered by the link. The thigh strap is covered with india-



rubber, which adapts itself to the size of the body and does not absorb perspiration.

*Claim.*—First, the pad C, when made in the shape herein shown and described and for the purposes set forth.

Second, the truss straps D and E, when covered with india-rubber cloth, substantially as described, for the purpose specified.

Third, in combination with the truss strap E covered with india-rubber cloth, the elastic portion g, substantially as described, for the purpose specified.

Fourth, the double straps D and e at the end of A, in combination with the knob a on pad C and with the knob i on spring A, as set forth.

Fifth, the strap E, in combination with the loops h h and knob a on the pad C, all made and operating substantially as herein shown and described.

**69,016.**—ELFAMIO M. NOYES, Binghamton, N. Y.—*Curry Comb.*—September 17, 1867.—The vulcanized rubber teeth are secured in the metallic casing.

*Claim.*—The construction and use of the non-metallic teeth A A, attached to the metallic casing B, in combination with the curry comb on back C, substantially as and for the purpose herein set forth.

**69,017.**—PHILANDER PERRY, Charlestown, Mass.—*Coffee Pot.*—September 17, 1867.—A movable diaphragm rests on an interior bead of the coffee pot and supports the perforated cup which holds the ground coffee, and also supports the funnel which directs the water into the said cup.

*Claim.*—The combination and arrangement in a coffee pot of the movable perforated tank G and the tunnel H H\* with the close concave radiator or diaphragm support J, when the latter is removable, all substantially as and for the purpose described.

**69,018.**—G. M. PETERS, Jr., Granville, Ohio.—*Harvester.*—September 17, 1867.—The supplementary endless apron receives the grain from the main endless apron and deposits it on the ground. The platform is supported by a wheel at each end, and to the front end a finger bar is attached with fingers through which a reciprocating toothed sickle works, being driven by a rod from the crank wheel. In cutting standing corn guides are attached to the front edge of the frame to guide the stalks from the hills to the teeth of the sickle.

*Claim.*—The combination of the two endless aprons or carriers I J, constructed and operating as described, frames H C, axle A, and sickle O, with or without the guides P, all arranged to operate substantially as and for the purpose set forth.

**69,019.**—WILLIAM J. PHELPS, Springfield, Mass.—*Conductors' Ticket Punch.*—September 17, 1867.—The jaws are pivoted together at their ends, and one of them is forked; the inner fork acts as a guide to the punch, which is pivoted to the other jaw, and the outer fork is recessed and perforated to receive the die plate and allow passage to the punchings. One lever is looped to receive the finger when not operating.

*Claim.*—First, the combination of the lever B and die spindle h, pivoted thereto, with the slotted lever A, guide p, and female die m, the whole arranged and operating substantially as set forth.

Second, the arrangement of the slotted lever A and female die m, lever B and male die h, in combination with the spiral spring C, substantially as described.

**69,020.**—WILLIAM POMEROY, Brooklyn, N. Y.—*Truss.*—September 17, 1867.—The spring is jointed midway between the ends, and has a milled eccentric on one side of the hinge, which operates on an abutment at the other side to regulate the tension of the spring. The pad is adjustably connected to a round slide, which may be partially rotated in its socket and is held by a set screw.

*Claim.*—First, the block or shoulder D and eccentric E, constructed as described, for the purpose specified.

Second, the rotating arm or slide I, attached to one end of the body spring A, and secured in position, when adjusted, by a set screw, constructed and operating substantially as and for the purposes herein described.

Third, the slotted end of the rotating arm I, used

in connection with a pad spring and a screw K, substantially as herein shown and described, and for the purpose set forth.

**69,021.**—SILAS S. PUTNAM, Dorchester, Mass.—*Clothes Hook.*—September 17, 1867.—Improvement on the patent of Putnam and Whitmarsh, January 29, 1867. Explained by the claim and illustration.

*Claim.*—The bracket A, in combination with the hook C, constructed and operating substantially as described and for the purpose set forth.

**69,022.**—SILAS S. PUTNAM, Dorchester, Mass.—*Stall for Animals.*—September 17, 1867.—A bar is pivoted to the rear end of the stall which will raise with the animal in case it should get beneath the bar while lying down.

*Claim.*—The bar B, or its equivalent in combination with the stall A, the bar being so constructed and applied that it will yield in an upward direction and drop to its original position when released, substantially as and for the purpose described.

**69,023.**—D. B. RANDALL and A. A. WILLIAMS, Glover, Vt.—*Clothes Dryer.*—September 17, 1867.—The frame is slid in its guideway by the rope and pulley by which it hangs. The frame that bears the arms is adjusted to the required position by the perforated brace by which it is supported.

*Claim.*—First, the combination of the guideway B, or its equivalent guide C, and frame D, with each other, substantially as herein shown and described and for the purpose set forth.

Second, the jointed central bar of the frame D, in combination with the guide C and guideway B, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the adjustable brace bar E with the guide C, and central bar d' of the frame D, substantially as herein shown and described and for the purpose set forth.

**69,024.**—EDWIN REYNOLDS, Metomen, Wis.—*Gate.*—September 17, 1867.—The gate traverses on and below rollers on the respective posts, and slips alongside a panel of the fence. It may be adjusted a panel higher during deep snows.

*Claim.*—The combination of fence panel A with gate B, when the same are provided with an elongated bar or upright a, adjustable pieces h m, and pulleys e g, all constructed, arranged, and operated in the manner and for the purpose set forth and described.

**69,025.**—A. H. RICHARDSON, Denver, Colorado.—*Furnace for Smelting Silver Ore.*—September 17, 1867.—A blast from a bellows is directed from a charcoal fire into a pot containing silver. The slag is blown off through a groove in the apron. The object is to separate the lead and desulphurize the antimony. The lead runs through a duct from a lower cavity.

*Claim.*—A smelting furnace having the blast supplied upon the ores in a furnace box, provided with an apron in manner as above set forth, and furnished with three apertures at different levels, in manner and for the purposes substantially as above set forth and described.

**69,026.**—E. RICHMOND, Brooklyn, N. Y.—*Rack for Brooms, Billiard Cues, &c.*—September 17, 1867.—The rubber sheet admits of the introduction of the article from the side of the rack, the slits being lined with rubber and communicating with the perforations in which the whips, brooms, or billiard cues stand, their butts resting on the base piece.

*Claim.*—First, in a rack for holding or suspending brooms, cues, and other articles as described, the slits, lined or provided with a suitable elastic or binding device, and formed in the side or edge of the rack so as to communicate with the perforations or recesses in said rack as and for the purposes set forth.

Second, the combination with a rack in which articles are held or suspended by means of rubber or equivalent elastic body, of a plate or equivalent means of supporting the butts or lower ends of said articles, as set forth.

**69,027.**—DANIEL C. ROBIE, Springfield, Mass., assignor to himself and MOSES GOLDTHWAITE, same place.—*Hitching Post.*—September 17, 1867.—The



weighted tie-chain travels in the hollow post. The weight forms a stop to arrest the extraction of the chain from the post.

*Claim.*—The hitching post constructed of a closed top and an opening *e* on its side, communicated with the annular space *a*, for the purpose and in the manner substantially as described.

**69,028.**—JOHN L. ROWE, New York, N. Y.—*Truss.*—September 17, 1867; antedated September 7, 1867.—The springs mentioned are attached to a plate to which the pad is hinged. The pad is adjusted by a set screw.

*Claim.*—The springs *c*, connected with and extending from the springs *a*, in the manner specified, in combination with the pad plate *g*, to which they are united by one bolt in the manner and for the purposes set forth.

**69,029.**—M. V. B. ROWLEY, Worcester, N. Y.—*Churn.*—September 17, 1867.—Accelerated action to the working beam that operates the dasher is obtained by a system of gearing. The motion of the working beam is regulated by the pendulum.

*Claim.*—First, the working beam *L*, securely attached to the pendulum rod *O*, whereby the pitman *K* is carried past its center, as herein set forth for the purpose specified.

Second, the combination of the working lever *L*, pendulum and rod *O P*, pitman *K*, and crank wheel *J*, substantially as described for the purpose specified.

**69,030.**—NEWEL S. RYDER, Greenland, Mich.—*Apparatus for Washing Ores.*—September 17, 1867.—The buddle receives a double motion—a rocking motion on its axis, and an oscillation by reason of the attachment of its tail end to a lever oscillating in a vertical path. The effect is to roll and agitate the contents, the heavier part, which passes by a pipe from the tail of the buddle, having been assorted by gravity and the lighter rejected.

*Claim.*—First, a buddle *A*, so suspended and operated that while it has a lateral rocking motion it shall at the same time have a longitudinal oscillation, substantially as and for the purpose set forth.

Second, a buddle when constructed and arranged so that the floor is higher at the tail than at the head, so suspending it that in rocking laterally the axis of oscillation shall be higher at one end than at the other, substantially in the manner set forth.

Third, the arrangement of the seive *B*, box *A*, and pipes *I* and *K*, substantially as set forth.

**69,031.**—EDWARD SCHINDLER and CHARLES H. METZGER, Easton, Pa.—*Punch.*—September 17, 1867.—The punches are in one end of a compound lever, and operate on a plate of softer metal. The outer punch is held in position by a set screw, and may be placed either longitudinally or laterally in respect to the fixed punch. An adjustable guide indicates the distance for the holes.

*Claim.*—First, the levers *C D* connected by the straps *b*, the former provided with the set screw *K*, the latter provided with the removable punches *k*, arranged in relation with the longitudinal adjusting plates *E F*, substantially as described for the purpose specified.

Second, the adjusting plates *E F*, when provided with flanges upon their upper ends whereby the leather is taken from the punches when the latter are raised, as herein shown and described.

Third, the gauge *h*, when arranged in relation with the bed plate *g*, whereby the distance apart of the holes to be punched is governed substantially as described for the purpose specified.

Fourth, the arrangement of the flanged adjustable guides *E F*, gauge *h*, plate *g*, and punches *k*, substantially as described for the purpose specified.

**69,032.**—WILLIAM SCHMITT, New York, N. Y.—*Coat and Hat Hook.*—September 17, 1867; antedated September 8, 1867.—The coat is hung on the lower hook and the hat clasped between the points of the two hooks, which may be locked to prevent surreptitious removal of the articles.

*Claim.*—First, the hinged hook jaws *BC*, in combination with a spring latch or other locking device constructed and operating substantially as and for the purpose described.

Second, in combination with the hook jaws *BC*, the elastic tip *d*, substantially as and for the purpose described.

Third, the clamp *F*, in combination with the hook jaws *BC* and with a suitable locking device constructed and operating substantially as and for the purpose described.

**69,033.**—ANDREW H. SHERWOOD, Southport, Conn.—*Door Bolt.*—September 17, 1867; antedated September 7, 1867.—The upper and lower bolts are attached to a pivoted lever so as to be operated simultaneously, and to the latter is connected a catch which engages a pin in the barn siding to hold the door wide open.

*Claim.*—The above catch *G*, in combination with the bolt *D E F*, substantially as and for the purpose specified.

**69,034.**—GEORGE W. SLATER, New Haven, Conn.—*Bow Iron for Vehicles.*—September 17, 1867.—The iron thimbles for reception of the bows have extensions on one side which are riveted to the bows, and the thimbles are pivoted to the bed plate so as to allow the necessary oscillation.

*Claim.*—First, the bed plate *A*, constructed of one piece as and for the purpose set forth.

Second, the slats *g*, so formed as to be attached to the bed plate *A* by means of knuckles *d*, in the manner herein described.

Third, the ears *s* on slats *g*, used in forming thimbles to receive the bows as herein set forth.

Fourth, the bed plate *A*, in combination with slats *g* and bows *c*, the whole constructed and operating substantially as herein set forth.

**69,035.**—ANDREW P. SMITH, Greensburg, Pa., assignor to himself and GEORGE BENNETT.—*Wagon Brake.*—September 17, 1867.—Pressure is applied to the wheels by the sliding of the wagon body on its bolsters in going down hill. The ordinary hand brake is converted into an automatic one by connecting the rock shaft, which operates the rubbers, with the wagon body.

*Claim.*—The combination with the running gear of the wagon, of the sliding bed, the friction rollers, the inclined slots, the draw bars, the rock shaft, and the brake lever, the whole being constructed, arranged, and operating as described for the purpose set forth.

**69,036.**—GEORGE W. SNYDER, Kalamazoo, Mich., assignor to himself and JAMES AIKEN, Mendota, Ill.—*Horse Rake.*—September 17, 1867.—The rake turns in strap sockets of arms pivoted to the thills and is adjusted vertically by chains attached to the thill arms and to the arms of a rock shaft operated by a lever and retained by a pawl. The rake is restrained from rotating by a pawl which takes over the end of a detent plate on the rake bar.

*Claim.*—First, the arrangement of the rake *C* with its plates *g g*, pawl *m*, bar *l*, shield *i*, and lever *e* with the swinging frame *G*, in the manner and for the purposes specified.

Second, the combination of the axle *A* with its wheels and thills *A'*, provided with shaft *b*, with lever and ratchet rake shaft *c*, with teeth *a a*, frame *G*, chains *H H* and pawl *m*, with lever *e*, all arranged and used in the manner set forth.

**69,037.**—JAMES F. SPENCE, Brooklyn, N. Y.—*Hydrocarbon Vapor Machine.*—September 17, 1867.—Two chambers containing hydrocarbon liquid communicate by pipes with the air and with two rotating chambered drums partially immersed in light hydrocarbon, whale, and lard oil, so that the air is drawn through the drums and expelled through pipes at their periphery, issuing beneath the surface of the liquid. From the upper part of this chamber the carbureted air passes to the gas burners.

*Claim.*—First, the combination and arrangement of the three chambers *B C E* with the reservoirs *D D'* and supply pipes *d d r*, substantially as and for the purpose set forth.

Second, the two rotating drums *H* provided with chambers *b*, in combination with the tubes *o*, substantially as and for the purpose specified.

Third, in a hydrocarbon vapor machine the employment or use of a plurality of hydrocarbons of differ-



ent grades placed in one or more chambers of the machine, substantially as and for the purpose set forth.

Fourth, the valves F, constructed of cork or other similar light material when used in connection with a hydrocarbon vapor machine, substantially as and for the purpose set forth.

**69,038.**—JAMES C. SPENCER, Phelps, N. Y., assignor to himself and ARCHIBALD B. VANDERMARK, same place.—*Odometer*.—September 17, 1867.—A pin on the hub comes in contact with the yoke arms to rock the shaft and turn the ratchet wheel a single tooth to each rotation of the ground wheel. This gives motion to the screw gear and moves the index wheels.

*Claim.*—The combination of the cog wheels D and E in the box C, the worm gear *a*, the ratchet wheel *c*, operated by the spring pawl *d*, on the rock shaft *e*, and the hub A, provided with the pin *h* for giving motion to the rock shaft by the arms *g g*, arranged and operating substantially as herein described.

**69,039.**—JOSEPH B. STEARNS, Boston, Mass.—*Fire Alarm Telegraph*.—September 17, 1867.—Both the bell-tower machine and signal boxes are worked in one circuit by arranging a steel armature so that it will act on the detent in two different ways by twice reversing the circuit. The armature has two arms with rests for the detent.

*Claim.*—First, the employment of reverse currents for operating the bell-striking mechanism, in the manner and for the purpose specified.

Second, successively engaging and disengaging the arms *b b'* of a bent lever attached to the weighted shaft of the bell-striking mechanism by the movement of a magnetized armature, which by means of reverse currents is caused to oscillate between two electro-magnets in the manner set forth.

**69,040.**—HENRY C. STONE, Brookfield, Mass., assignor to himself and JOHN C. GIBBS, same place.—*Pegging Machine*.—September 17, 1867.—The machine is made adjustable to feed pegs of varying lengths. At each vibration of the arm the carriage is swung toward the stationary knife, a peg is split from the sheet, and on the reverse motion the rolls feed the sheet along the thickness of a peg. The peg is conducted by the peg-guide to the driver tube. By the movement of a lever the actuating feed pawl is changed and the switch is moved to conduct another size of peg to the operative parts.

*Claim.*—First, the combination with the peg-wood carriage or table B, having two or more grooves *a a'*, or their equivalents, of a switch J, substantially as and for the purposes set forth.

Second, the combination of the switch J with the peg wood carriage B and peg guides E E', substantially as and for the purposes set forth.

Third, the combination with the peg guide E of the adjustable guide *o*, substantially as and for the purposes set forth.

Fourth, the combination of the lever H with the switch J, substantially as and for the purposes set forth.

Fifth, the combination with bar G and pawls *l* and *g* of the connections *h* and *i*, and slotted lever H, substantially as and for the purposes set forth.

Sixth, the combination in a pegging machine of mechanism substantially such as above described, whereby the operator can change from one length of peg to another without stopping the machine, as stated.

**69,041.**—JOSEPH M. STONE, North Andover, Mass., assignor to DAVIS & FURBER, same place.—*Hanger*.—September 17, 1867.—The box is supported by a gimbal joint within a horizontally bisected ring of the hanger frame.

*Claim.*—In a hanger so constructed and arranged as to allow free motion of the shaft-supporting box automatically on both of two axes, provision for hanging the box by adjustable entering pivots within a frame, which frame is also held or suspended by adjustable entering pivots.

Also, the construction of the hanger in two parts, arranged with respect to each other and to the shaft-bearing box, substantially as described.

Also, the combination of the shaft box with the pivoted hoop.

**69,042.**—M. A. STROUVELLE, St. Louis, Mo.—*Belting for Driving Machinery*.—September 17, 1867.—The unsalted hide is dried, soaked in rain water, unhaired, stretched, dried in the shade, oiled, cut up into strips, and made into belting.

*Claim.*—Raw hide belting for machinery as a new article of manufacture, prepared substantially as herein described.

**69,043.**—ERNST SÜVERN, Halle, Prussia.—*Disinfecting Compound*.—September 17, 1867.—For the disinfection of waste water of beet-root sugar and starch factories, sewers, &c. Composed of a solution of quick lime, 100 parts; coal tar, 8; chloride of magnesium, 10 to 25; water, 1,000.

*Claim.*—A disinfecting compound composed of the ingredients herein described and mixed together, substantially as and about in the proportion set forth.

**69,044.**—J. W. TAYLOR, Oshkosh, Wis.—*Shaft Coupling*.—September 17, 1867.—One end of the shafting has a cylindrical projection with a diametric pin near the mouth and carrying two anti-friction rollers, forming together a spool-shaped compound roller. On the end of the other shaft is a V-formed cylindrical piece, which enters the cylinder more or less, to make a rigid or a gimbal coupling.

*Claim.*—The hollow cylinder *a* provided with friction rollers *e e*, substantially as described, when used in combination with the dual pronged head *c*, as and for the purposes set forth.

**69,045.**—CLARK M. TERRELL, Oskaloosa, Iowa.—*Hay Shocker*.—September 17, 1867.—The rotating cylinder is carried on a wheeled frame, and curved teeth are alternately projected and withdrawn to gather and raise the hay or to pass beneath the platform. The teeth are actuated by compound crank bars which are operated by a cam. The hay is deposited on a frame, from which it is dumped in the form of a cock if desired.

*Claim.*—First, the mode of retracting the teeth F by means of the crank shafts H, in combination with the cam I, substantially as set forth.

Second, in combination with the cylindrical shell A and teeth F a receiving platform for sustaining the operator in forming a shock upon the hinged platform K, substantially as set forth.

Third, in combination with a hay elevating cylinder A and receiving platform G, arranged to operate substantially as described.

Fourth, the platform K hinged to the machine and supported by a spring so arranged as to discharge the shock by the action of gravity merely, substantially as set forth.

Fifth, the combination of the hinged platform K with curved teeth K', and the supporting spring N, substantially as and for the purpose set forth.

Sixth, in combination with the revolving cylindrical shell A the band O, arranged to operate substantially in the manner and for the purpose set forth.

Seventh, so attaching the platforms G and K that they may be detached, and the machine be converted into a tedder, substantially as set forth.

**69,046.**—ROBERT THOMAS, Parkersburg, West Virginia.—*Window Sash*.—September 17, 1867.—The sash is attached to strips connected to the weight cords and sliding in the frame grooves. The connection is made between the sash and sliding strips by metallic catches of the sash, which enter holes in the metallic plates of the sliding strips.

*Claim.*—First, the short bars E hinged to the bars E' of the lower sash, adapted to catch into notched plates F, secured in the window frame, whereby the bars C C' are held in position so that they will not be drawn up by the weight when the sash D is removed, substantially as described for the purpose specified.

Second, the sash D, when provided upon one side with the hooks *d*, fitting into notches of plate *f* upon the short bars C and upon the opposite side with reversed hooks *g* fitting into the notched plate *i* upon the long bars C', as herein set forth for the purpose specified.



**69,047.**—T. G. THOMPSON, Richmond, Ind., and A. F. FOX, Greensboro', Ind., assignors to THOMPSON, BALLARD & CO., Richmond, Ind.—*Hand Loom*.—September 17, 1867.—A latch bar is operated by the batten, and passes through the slide box attached to the upper longitudinal rail of the frame. The front end of the latch bar is rectangularly turned inward, and a pin projects from the bar at such a distance from the end as to permit proper motion in the batten. A hook on the bar engages the ratchet cam, and a carrier on the finger bar bears on the ratchet surfaces of the cam. The finger bar presses on the ends of the treadles alternately and works the harnesses. An adjustable carrier attached to a longitudinal rail is slotted to give lateral motion to the carrier. On the under side of the batten is the trigger spring, to return the triggers after they have been disengaged from the picker staffs.

*Claim.*—First, the sliding latch bar C having projections  $q$  and  $p$ , in combination with the posts  $a$  of the batten B and the ratchet cam  $s$ , arranged and operating in the manner set forth.

Second, the combination and arrangement of the spring  $l$ , constructed as described, with the lay triggers and their operating straps, as and for the purpose described.

Third, the handle H combined with the batten top, in the manner described and for the purpose specified.

**69,048.**—J. B. THORNTON, Madison, Wis.—*Horse Hitch*.—September 17, 1867.—A strap for connection to the lines is attached to the spiral spring on the hub. The strap is restrained from revolving by a pawl, when it is connected to the reins, and the wheel turned forward, but turns freely on a backwardly rotating wheel. The outer end of the strap when unused is engaged on pins fixed in the hub.

*Claim.*—A device for hitching horses, constructed and applied to wheel hubs, substantially as and for the purpose described.

**69,049.**—BENJAMIN F. TURNER, Bridgeton, N. J.—*Fruit Ladder*.—September 17, 1867.—The ladder is sustained on a diagonally braced adjustable frame, and is extensible vertically.

*Claim.*—First, the hooks E, when applied to or used in combination with an extension ladder, substantially in the manner as and for the purpose herein set forth.

Second, the base G, constructed with the pivoted braces  $h$   $h$ , when applied to or used in combination with an extension ladder, substantially as and for the purpose specified.

Third, in combination with the above, the adjustable platform H\*, as herein set forth for the purpose specified.

**69,050.**—E. W. VAILL, Worcester, Mass.—*Folding Chair*.—September 17, 1867.—The arms are pivoted to the front legs by intermediate blocks, which allow them to assume a more compact position against the back when the chair is folded.

*Claim.*—First, the blocks G G<sup>1</sup>, hinged to the legs and arms of the folding chair, and constructed and operating substantially as and for the purpose described.

Second, the folding chair above described, consisting of the standards A A<sup>1</sup>, legs B B<sup>1</sup>, traverses T T, cross-bars C C<sup>1</sup>, pivots  $a$   $a$ <sup>1</sup>, rounds R R, curved slotted arms D D<sup>1</sup>, and hinged blocks G G<sup>1</sup>, all constructed, combined, and operating substantially as and for the purposes specified.

**69,051.**—ROBERT VANDEVORT, Pittsburg, Pa.—*Boot Heel*.—September 17, 1867.—The heel is secured by an intermediate plate to the boot sole; the plate has a forward projection to which the lip of the heel is secured by a screw, and the heel socket has an interior rabbet against which the plate fits.

*Claim.*—The metallic heel C, with the front projecting lip  $n$ , and internal recess or shoulder  $i$ , held in place by means of the plate A, secured firmly to the sole, and screws  $b$  and  $e$ , as herein set forth.

**69,052.**—A. K. P. WALKER, Richmond, Me.—*Fastening for Breastpins*.—September 17, 1867.—Instead of riveting, the pin is linged by being passed through the eye, and taking a round turn is then prolonged to engagement with the hook.

*Claim.*—The pin A, constructed as described, con-

sisting of the head  $a$ , twisted through the undivided eye  $b$  of the plate B, and provided with the lateral turn C, the end of the head  $a$  resting upon the plate, all operating as described for the purpose specified.

**69,053.**—ANDREW WARREN, Waltham, Mass.—*Regulating Device for Watches*.—September 17, 1867.—The disk wheel has a spiral groove on its upper face in which traverse the pins projecting from the indicating lever. The object is a means of operating with certainty for minute adjustment.

*Claim.*—In combination with the indicating regulating lever or wheel having a spiral formation, and arranged to both hold and move said lever, substantially as described.

Also, in the said combination, the employment of two or more pins in the lever and gearing into the spiral, when the relation between the spiral and the pins is substantially that specified.

**69,054.**—GEORGE WATKINS, Brooklyn, N. Y.—*Device for Mixing Liquids*.—September 17, 1867.—The beaters are suspended by a collar on the cross-bar, and when the latter is raised they are lifted out of the vessel.

*Claim.*—The adjustable beaters C C, connected with the shaft E, and suspended from the adjustable cross-bar  $e'$ , all constructed, arranged and operating as herein shown and described.

**69,055.**—TITUS WHITMORE, Dubuque, Iowa.—*Head Block for Saw-Mills*.—September 17, 1867.—The lateral movement of the log to the saw is accomplished by gearing which is acted on by a rotating dog which engages the ratchet teeth on a disk. A cam on the disk disconnects the mechanism when the log has been moved to the proper extent, and the position of the disk upon its shaft, to insure the right movement, is effected by a pin upon a spring arm which is attached to the shaft. The pin enters one of a series of holes in the face of the disk. The return of the disk is caused by a spring.

*Claim.*—The combination and arrangement of the index wheel T, having cam W, spring A<sup>2</sup>, slotted arm  $n$ , carrying pin  $y$ , spring pawl lever  $e^2$ , arm V, dog A<sup>2</sup> upon shaft I, pinion K, clutch L, gear wheel O, and band wheel O, and feed screw S', whereby the log is set to the saw as herein set forth for the purpose specified.

**69,056.**—LEWIS R. WIGGIN, Farmington, N. H.—*Thread Waxing Device for Sewing Machines*.—September 17, 1867.—The tank contains wax, tar or other material, which is heated by a steam pipe and a lamp whose chimney passes through the tank. The thread passes through a rubber presser, then through the contents of the tank and another presser, thence to the needle-bar and another tank.

*Claim.*—First, the tank A, water chamber B, and steam worm or tube D, combined and arranged substantially as and for the purposes above set forth and described.

Second, the supplementary tank A' and prolongation D' of the worm or steam tube D and rubber presser I, in combination with the tank A, steam generator C, and worm D, substantially as and for the purposes above set forth and described.

**69,057.**—C. A. WILSON, Cincinnati, Ohio.—*Steam Pressure Gauges*.—September 17, 1867.—A combined stop and blow-off cock and water trap has two passages which communicate respectively with the boiler, and with the diaphragm chamber of the pressure gauge, and an intermediate passage. The cock serves, in one position, to confine the water to transmit the steam pressure, and in the other position to discharge the water externally, to prevent its freezing when the steam is shut off from the gauge.

*Claim.*—The arrangement of the three vertical tubes B C D, horizontal duct E, and four-way cock I, with passages F and G and ventage H, substantially as and for the purpose described.

**69,058.**—E. B. WINSLOW, Chatham, Ill.—*Trace and Pad Buckle*.—September 17, 1867.—The trace and pad strap are fastened by a single buckle which has two side plates connected by cross-bars, and having pivoted tongues which engage the holes of the straps.



*Claim.*—A combination trace and pad buckle, formed of the sides *a a*, connected by the bars *b b' m* and *q*, and having a trace tongue *n* attached to a swivel bar *p*, constructed, arranged, and operating substantially as herein described.

**69,059.**—J. W. WOODRUFF, Watson, Ill.—*Washing Machine.*—September 17, 1867.—The box rocks upon its axis, each end being connected by a strap to a spring beneath. The handles are drawn out or in to increase or diminish the leverage according to the quantity of the contents, which are acted upon by the beater and the corrugations of the interior.

*Claim.*—The sliding handles *B B*, box *A*, spring *a*, and beater *E*, all being combined and operated as and for the purpose set forth.

**69,060.**—J. N. WOODWARD, Aurora, Ill.—*Bending Machine.*—September 17, 1867.—For bending sheet-metal plates for covering the exposed portions of green-house and skylight sash. The rib determines the inside form, and the cap and adjustable side plates the outside form; the outer die is brought down by the lever and the springs release the swaged strip from each portion of the die.

*Claim.*—First, the rib *C*, on the bed plate *A*, in combination with the cap *D*, and adjustable bars *a a*, said parts being arranged to operate substantially in the manner as and for the purpose set forth.

Second, the springs *F E*, respectively, in bed plates *A*, and cap *D*, arranged in connection with the rib *C*, and adjustable bars *a a*, to insure the ready removal of the swaged sheet-metal strip, substantially as described.

Third, the combination of the cap *D*, provided with the adjustable bars *a a*, and placed on the rods *B B*, having springs *e*, upon them, the rib *C*, on the bed plate *A*, and the lever *G*, all arranged for joint operation substantially as and for the purpose set forth.

**69,061.**—ARTHUR ADAIR, Buffalo, N. Y.—*Washing Machine.*—September 24, 1867.—The oscillating presser passes over segmental ribbed surfaces, and is attached by cords to hinged pendants, which act alternately as abutments for the presser, and to lighten up and turn the clothes.

*Claim.*—First, the false ends *B B*, combined with the pounder *P*, through the connecting cords *s s*, and operating substantially as herein specified.

Second, the false ends *B B*, combined with the rubber springs *r r*, and operating substantially as herein set forth.

**69,062.**—CHARLES L. ALEXANDER and VICTORIA A. OSBORN, Washington, D. C.—*Book-Cover Protector.*—September 24, 1867.—The expansive book cover is contracted by rubber bands and expands to adjust itself to the size of the book on which it is placed.

*Claim.*—First, the elastic bands or straps *a a*, &c., to form an expansible connection for the two halves of the cover protector, substantially as described.

Second, the elastic bands or straps *b b*, &c., in combination with the flap *c c*, of center piece *C*, and the folds *D D* and *G G*, substantially as described and for the purpose set forth.

Third, such a book-cover protector or mode of covering bound books as by reason of its expansibility and extensibility may be adjusted to books of various sizes, substantially as described.

**69,063.**—WILLIAM BATTY, Lawrenceburg, Pa.—*Boshes of Heating and Puddling Furnaces.*—September 24, 1867.—The bosh is cast upon wrought-iron pipes which will afford circulation for water to cool and preserve the bosh. The water chamber beneath has the same effect. The front plate is attached by tongues and grooves to the bosh and the fore plate similarly attached in the front plates.

*Claim.*—First, the bosh of a puddling or heating furnace cast upon a wrought metal water circulating tube or tubes, substantially as and for the purpose described.

Second, the water chamber of a puddling or heating furnace arranged on rails or ledges under the bottom of the puddling or heating chamber, substantially as and for the purpose described.

Third, the removable front plate of the bosh con-

nected by tongues and grooves to the bosh, substantially in the manner and for the purpose described.

Fourth, the removable fire-plate *D*, fitted in a recess in the top of the front plate and held in place by tongues and grooves, substantially as and for the purpose described.

**69,064.**—WILLIAM D. BAUGHN, Milford, Mich.—*Metal Sleigh Knees.*—September 24, 1867.—The knee is cast-iron and has a longitudinal hole through it as well as a slot in the tenon. A bolt through the bottom of the runner traverses the knee and is secured by a nut above the rave.

*Claim.*—The tenon *D*, with the slot *F*, through which passes the bolt, above described.

**69,065.**—SAMUEL and MARION BEAR, Versailles, Ohio.—*Churn.*—September 24, 1867.—The slats of the revolving dasher are attached to curved arms, and the inside of the churn has vertical breaker bars to arrest the vertical motion of the cream.

*Claim.*—The slats or uprights placed substantially in the churn as shown in combination with the curved dasher, as set forth in the specification.

**69,066.**—C. W. BLISS and O. A. ADAMS, Milford, Mass.—*Shank Laster.*—September 24, 1867.—The claw is pivoted eccentrically on the head, and operated by the handle.

*Claim.*—The said boot-shank laster composed of the cam *A*, the handle *B*, and shanked claw *C*, arranged and applied together, as specified.

**69,067.**—WILLIAM BONNER, St. Louis, Mo., assignor to H. M. BAYLESS, same place.—*Extension Nozzle and Ventilating Oil Can.*—September 24, 1867.—The nozzle has a lip with a sliding extension so as to enable the oil to run clear of the side and the small pipe admits air above the oil, so as to prevent gurgling and irregular flow.

*Claim.*—The lip *b*, slide *c*, and tube *d*, when constructed and arranged substantially as shown and specified.

**69,068.**—CHARLES BRADA, Newton, Mass.—*Drawer for Furniture.*—September 24, 1867.—The drawer is supported at each side upon ways attached at each end to the casing or frame, in combination with a projecting strip secured to the under side of the drawer. The object is to render the drawer free to move when force is applied other than at its mid-length.

*Claim.*—First, the combination of the bearing *d e*, in the frame or casing, and the projection *g* on the drawer, as and for the purpose specified.

Second, the strip *f*, as and for the purpose set forth.

**69,069.**—JOHN M. BROOKE, Lexington, Va.—*Boat Detaching Tackle.*—September 24, 1867.—To stand posts in the boat are pivoted hooks, whose slots traverse on the pivoted pins as the cords are pulled, to rotate the hooks out of engagement with the eyes on the davit fall blocks.

*Claim.*—First, the hook *A*, with a curved slot *b*, substantially as and for the purpose described.

Second, the combination of the slotted loaded hook *A b*, stand bolt *G* of a boat, and tackle block strap *k*, constructed substantially as herein described.

**69,070.**—FELIX R. BRUNOT, Allegheny, Pa.—*Sluice Gate for Dams or Locks.*—September 24, 1867.—Explained by the claim and illustration.

*Claim.*—First, in a sluiceway in a dam, dock, lock, or other hydraulic structures, a hollow sluice gate, furnished with a valve or valves for the admission or exit of water, and so placed in a chamber or recess in the sluiceway, lock, or other structure furnished with apparatus for admitting the head of water into the chamber under the gate or emptying the chamber of water as to raise or lower the gate at pleasure, substantially as and for the purposes hereinbefore described.

Second, the standing pipe, open at any required height for the admission of water into the sluice gate, in combination with the hollow sluice gate or float into which the pipe opens, constructed and operating substantially as described, for the purpose of closing or lowering the sluice gate automatically at the required stage of water, as hereinbefore set forth.



Third, the gates for sluices, docks, locks, and other hydraulic structures, in combination with hollow floats so constructed with valves for the admission or exit of water as to raise and lower or open and close the gates at pleasure, in the manner substantially as hereinbefore described and for the purposes set forth.

**69,071.**—M. C. BUFFINGTON, La Harpe, Ill.—*Corn Plow*.—September 24, 1867.—The plow beams are pivoted at the fore end, and may be raised and supported on hooks to keep the plows from contact with the ground. The axle is bent upward, and attached to the tongue.

*Claim.*—First, the bent axle A, with the wheel arms C and draft pole B attached, as shown, in connection with the pulleys *d d e* and draft chain or cord E, all combined and arranged to operate in the manner substantially as and for the purpose set forth.

Second, the attaching of the plow beams F to the axle A, by means of the tubes *h g*, the latter being fitted on rods *f* attached to the parts *c* of the axle, and the former secured by pins *j* between plates *i i*, at the front ends of the plow beams.

Third, the brace rods or bars *k*, connected with the ends of the rods *f* and the rear end of the draft pole B, substantially as and for the purpose specified.

Fourth, the combination of the axle A, draft pole B, brace rods or bars *k*, and the universal joints which connect the plow beams with the axle, all being arranged substantially as and for the purpose specified.

**69,072.**—P. L. BUTLER, Utica, N. Y.—*Rein Snap*.—September 24, 1867.—One spring retains the ring in the hook, and the other forms a mousing to keep anything from accidental engagement with the point of the hook.

*Claim.*—A rein snap having two springs *e d*, or their respective equivalents, applied to it, so as to operate substantially as specified.

**69,073.**—HIRAM CHAMBERLAIN, Calais, Me.—*Machine for Chopping Meat*.—September 24, 1867.—The meat is placed in a hopper so inclined as to bring it in contact with a cutting and slicing rotating disk. From the disk the meat passes to a cylindrical rotating box, having a wooden bottom and metallic sides, where it is subjected to the action of a vertically reciprocating cutter.

*Claim.*—The combination as well as the arrangement of the slicing and mincing or chopping mechanisms, substantially as specified, the slicing mechanism, consisting of the rotary wheel with its slicing and cross-cut knives, the hopper and the wheel case, and the means of revolving the wheel and the mincing mechanism, consisting of the rotary mincing tub, its reciprocating knife, and the mechanism for operating the two, as specified.

Also, the combination of the adjustable shoe K with the hopper, and the slicing wheel, provided with the slicing and cross-cut knives, as described.

Also, the combination and arrangement of the studs *q q* and the retainer or arched bar *s* with the frame A and the slicing wheel case C, made in two parts and applied to the slicing wheel, as specified.

Also, the combination and arrangement of the slider *u* and its guides *v v* with the mincing mechanism, when connected with a slicing mechanism, and so as to operate therewith, as set forth.

**69,074.**—W. B. CHAPMAN, Waukau, Wis.—*Neck Yoke*.—September 24, 1867.—Hinged plates are clasped around the neck yoke, and the central clasp has plates perforated to receive the end of the tongue. Leather is inclosed between the two plates. The end straps are secured to the neck yoke by metallic straps.

*Claim.*—First, the hinged metallic clasp, Fig. 2, when used in combination with the leather or other filling *b'*, substantially as and for the purposes set forth.

Second, the use of the hinged metallic clasps C and D, or either, as and for the purposes set forth.

Third, the use of the clasps B, C, and D, in combination with the neck yoke A, as described, for the purposes set forth.

**69,075.**—GEORGE R. CLARK, Livonia, N. Y.—*Dumping Wagon Box*.—September 24, 1867.—The wagon box is hinged along the middle of the bottom, and the bottom may be let down at the sides. The

flaps are held up by hooks on the sides of the box, which engage transverse pieces beneath the bottom.

*Claim.*—The construction and relative arrangement of the several parts *a, d, s, f, h*, and D, constituting a dumping wagon box, substantially in the manner and for the purposes herein shown and described.

**69,076.**—NICHOLAS CLUTE, Schenectady, N. Y., and OLIVER W. MARSHALL, Columbus, Ohio.—*Seed Planter*.—September 24, 1867.—The upper part is strapped to the thigh and the lower end secured to the ankle.

*Claim.*—First, a seed planter so constructed that when applied to the leg of a person the vibration of the leg or the bending of the knee in the act of walking will work the lever and operate the segment slides or valves and deliver the seed to be planted.

Second, a hollow lever working on a pivot and carrying a perforated segment or slide to receive and deliver the seed into and through the lever, substantially as described.

Third, in combination with the segment above claimed, the perforated loose segment P between the segment L and the box.

Fourth, in combination with the delivering segment L, the stationary segment Q, substantially as described.

Fifth, in combination with delivering segment L, the sliding segment S, retaining and holding the seed when it is desirable to stop planting.

**69,077.**—JOSIAH COPLEY, Jr., Allegheny City, Pa., assignor to JOSIAH COPLEY, Sr., same place.—*Balanced Heave-up for Rolling Iron*.—September 24, 1867; antedated August 17, 1867.—The platforms are connected to levers and balanced by an adjustable weight. The platform is held down by a catch, and when raised may be depressed by the foot. It is used to present iron bars or plates to the rolls.

*Claim.*—First, combined with rolls for rolling iron, an improved balanced heave-up, constructed and counterpoised substantially as herein described and for the purpose set forth.

Second, the combination of the platforms C and C', frames D, levers *i*, arms *e*, and counterpoise *h* with rolls for rolling iron, substantially as herein described and for the purpose set forth.

**69,078.**—E. M. CRANDAL, Alton, Ill., assignor to LORETTA M. CRANDAL and E. T. HOLLISTER, same place.—*Self-acting Vent for Cans*.—September 24, 1867.—The air hole in the oil can is opened and closed by the action of opening the nozzle.

*Claim.*—The vent or air duct C, when applied to the can A, in the manner and for the purpose described and shown.

**69,079.**—EDWARD S. DAWSON, Syracuse, N. Y.—*Driving Bit*.—September 24, 1867.—Explained by the claim and illustration.

*Claim.*—A bit having a stiff mouth piece constructed of twisted wire with a soft rubber covering, as herein represented and described, as an article of manufacture.

**69,080.**—THOMAS B. DE FOREST, Birmingham, Conn.—*Forging Apparatus*.—September 24, 1867.—The slide valves are operated by eccentrics on a shaft beneath the anvil. The cut-off valves are operated by a treadle. The courses of the two hammers are rectangular to each other, and the anvil oscillates to bring the faces to the proper inclination. One of the treadle connections to the cut-off valve may be shortened to operate that valve alone. The iron is clamped to a sliding plate upon a frame connected to the main frame. A gauge attached to the slide releases the iron when sufficient has been fed in. After the object is formed it is cut off by the cutter heads.

*Claim.*—First, the hammer E and E', projected from the pistons and operated through the medium of the steam cylinders C and D, arranged as described, in combination with a vibrating or receding anvil, constructed and arranged so as to present a face to each hammer, substantially in the manner herein set forth.

Second, the arrangement described for operating the cut-off valve rods H<sup>2</sup> and H<sup>3</sup>, so as to adjust the



operation of the hammer or hammers, substantially as set forth.

Third, the bar J, in combination with and carrying the feeding and cutting-off apparatus described, hinged to the frame so as to be turned from the anvil I, substantially as herein set forth.

Fourth, the gage L<sup>2</sup>, in combination with the feeding device, all constructed and operated substantially as and for the purpose specified.

Fifth, in combination with the slide L and clamping lever L', the gage L<sup>2</sup>, arranged so as to be operated by the movement of the lever L<sup>1</sup>, substantially as described.

Sixth, the combination of the two cutter heads P<sup>1</sup> and P<sup>2</sup> with the slide R' and the stud R<sup>2</sup> and cam R, constructed and arranged so as to operate substantially as set forth.

**69,081.**—E. F. D'HAST, Swan Creek, Ill.—*Cultivator*.—September 24, 1867.—The axle is connected to a rectangular frame, to which the front ends of the plow beams are hinged. The rear ends of the plow beams are vertically adjusted by a lever.

*Claim.*—First, the frame A B G F, beams D D D D, cross-piece M, rods o o s s, connecting bar r'', and levers v'' v'', constructed as described and for the purpose set forth.

Second, the levers n'' n'', in combination with the main frame and beams D, substantially as described and for the purpose set forth.

Third, the cross-piece M, in combination with the rods s s o o and beams D, substantially as described and for the purpose set forth.

**69,082.**—ALFRED B. ELY, Newton, Mass.—*Boot and Shoe Tips*.—September 24, 1867.—The rubber is mixed with paper pulp to make a cheaper composition.

*Claim.*—A molded shoe tip made of rubber mixed with ground rags or other suitable fibrous material, substantially as described.

**69,083.**—J. D. EVANS, Pleasant Hill, Ga.—*Plow*.—September 24, 1867.—The shovel plow is secured to the adjustable standard, whose position is regulated by the perforated brace bar.

*Claim.*—The foot A and regulator B, as pivoted with bolts at C and clamped on both sides of the beam D, at E and E', when arranged and combined as herein described and for the purposes set forth.

**69,084.**—OWEN EVANS, Alliance, Ohio.—*Horse Hay Fork*.—September 24, 1867.—The catch point is pivoted to two bars, one of which has a socket for attachment of the hoisting rope. The point is forced into the hay when in a vertical position, and is turned up by the relative movement of the bars, by means of an oscillating T lever. The point is tripped by a slight movement of the said lever.

*Claim.*—The lip I, link E, and T-shaped lever F E', as arranged in combination with the shaft B, provided with notch or mortise H and foot C, for the purpose and in the manner as set forth.

**69,085.**—DAVID EYNON, Richmond, Va., assignor to TREDEGAR COMPANY, same place.—*Rolling Apparatus for Rolling Chairs for Railroads*.—September 24, 1867.—The chairs are rolled out by a series of operations between rolls.

*Claim.*—First, the rolls, grooved as described and shown in the drawings.

Second, the flattening rollers arranged in rear of the fifth groove, as described, for the purpose set forth.

**69,086.**—JAMES B. FELLOWS, Concord, N. H., assignor to C. C. JONES, Portland, Me.—*Brace for Boring Bits*.—September 24, 1867.—The bit is engaged below its shoulder by a pivoted hook at the mouth of the socket, and is tightened in place by rotation of the nut.

*Claim.*—The combination of the hook B, bolt and nut d, when the bolt is set vertically in the part A of a bit stock, and the hook B, rigidly attached to the said bolt d, is employed to embrace and hold the borer c in the part A, or release it therefrom, substantially as herein set forth and described.

**69,087.**—KASSON FRAZER, Syracuse, N. Y.—*Snap Hook*.—September 24, 1867.—The claws of the keeper are hooked around the loop, and the keeper is maintained in position by a spring which bears against the shank of the hook.

*Claim.*—The constructing of a snap, by a combination of the parts A B C and D, or their equivalents, substantially as and for the purpose described.

**69,088.**—JACOB W. GAULT, Pleasant township, Ohio.—*Churn*.—September 24, 1867.—The rocking treadle connects with the crank that moves the shaft of the fly wheel. The other end of the axle of the fly wheel is attached to the crank of the pitman that actuates the dasher.

*Claim.*—The combination and arrangement of the balance wheel, treadle, adjustable connecting rod, churn body, and dasher, when the several parts are constructed and operated as herein set forth.

**69,089.**—JOSEPH HADDLETON, Rochester, N. Y., assignor to himself and JOHN SNOW, same place.—*Animal Trap*.—September 24, 1867.—When the door drops the bail engages and is secured by the catches attached to its transverse bar.

*Claim.*—The hinged strap or bail b, in combination with the door D of animal traps, for the purpose of automatically locking the same when closed, in the manner herein shown and described.

**69,090.**—H. M. HAMILTON, New York, N. Y.—*Machine for Forming the Eyes of Picks, &c.*—September 24, 1867.—The blank is held between jaw dies by a cam while the punch descends and forms the eye by displacing the metal. In making elongated eyes a lower rest, corresponding in shape to the end of the elongated socket, bears against the under side of the blank and retreats before the punch. The punch is operated by the interposition of the sliding block between the punch stock and a continuously rotating cam.

*Claim.*—First, the arrangement of the block K, lever K<sup>1</sup>, and bolt K<sup>2</sup> with the frame H<sup>2</sup> and cam J, operating substantially as described.

Second, the follower R, acting upon the lower surface of the blank, in opposition to the descending punch and operated by the weighted lever, substantially as described.

Third, the detaching and detaining devices for the lever D', consisting of connecting rods O O<sup>2</sup> and lever M<sup>2</sup>, which unlatch the chain drum and a pawl or latch N, acting as a detaining trigger.

**69,091.**—HENRY L. HANSON, Portland, Me.—*Lamp*.—September 24, 1867.—The metallic cone has projections entering cavities on the upper surface of the glass cylinder.

*Claim.*—The arrangement of the removable metallic cone of the glass cylinder, in the manner and for the purposes set forth.

**69,092.**—H. A. M. HARRIS, Philadelphia, Pa.—*Pump*.—September 24, 1867.—The tubular piston rod passes through both ends of the cylinder, and is reciprocated by a pitman, connected to it below the cylinder by shackles. The piston has lower chambers having ball valves, and connecting through the upper chamber with side ports having a rolling ball valve. The pump is double-acting. The upper end of the piston rod discharges into the nozzle pipe, beneath the air chamber.

*Claim.*—First, a double-acting piston, constructed substantially in the manner described, whereby a continuous current is produced through the piston by its reciprocation.

Second, the combination of the double-acting piston, constructed substantially in the manner described, with the tubular piston rod, the pump cylinder, and air chamber, for the purposes set forth.

Third, the combination, substantially in the manner described, of the double-acting piston head with the tubular piston rods and cylinder, for the purpose set forth.

**69,093.**—JOHN HARWARD, Cobleskill, N. Y., assignor to himself and C. L. G. BLESSING, Albany, N. Y.—*Rotary Churn*.—September 24, 1867.—The weighted box connects by gear wheels and pulleys with the shaft of the rotary churn.



*Claim.*—First, the employment of a weighted box B, in combination with a rotary churn dash, as shown and described.

Second, the combination of a weighted box B with a churn dash, in combination with the adjustable frame W, substantially as and for the purpose shown and described.

**69,094.**—B. HERSHEY, Erie, Pa.—*Wagon Spring*.—September 24, 1867.—The slat spring attached to the bolster is elevated on metallic springs to increase its elasticity.

*Claim.*—The use of the torsion spring, with its attachments above described, as applied to freight wagons or carriages of whatever kind to which they may be properly attached.

**69,095.**—C. J. HOLCOMB, Macon, Mo.—*Hemming Guide for Sewing Machines*.—September 24, 1867.—The plate is attached by set screws to the cloth plate. The hemmer is placed the proper distance from the end of the lower plate to suit the width of the hem desired. The cloth is then placed in the hemmer.

*Claim.*—The combination and arrangement of the slotted adjustable plate A, tongue B, set screws C, folder D D', hemmer E, slide F, and screw G, all constructed and operating in the manner and for the purpose set forth.

**69,096.**—J. L. HUSBAND, Philadelphia, Pa.—*Preventing Incrustation of Steam Boilers*.—September 24, 1867.—Magnetic points are affixed into the generator shell; one or more points extend through the shell and terminate in a point, on which is placed an insulating cap to be removed when the boiler is free from scale, so as to allow escape of surplus electricity.

*Claim.*—The affixing absorbing or magnetic points or bars into and through the boiler shells with insulated cap, all as hereinbefore described and substantially as set forth.

**69,097.**—ANTHONY ISKE, Lancaster, Pa., assignor to himself and CHARLES JOS. WALSER, same place.—*Holder for Whitewash Brushes*.—September 24, 1867.—The perforated or toothed segment is adjustably engaged with the stationary pin on the lug, and is secured by the central set screw.

*Claim.*—The combination of the disk A, provided with stationary pin P, the notched or perforated disk B, and the tightening screw C, when constructed, applied, and operating substantially as described.

**69,098.**—ALEXANDER JACK, Milton, N. H., assignor to himself and EDWARD BRIERLEY, same place.—*Dyeing and Embossing Table and Piano Covers*.—September 24, 1867.—The fabric is elamped between blocks, whose adjacent, ornamental, projecting portions compress portions of the cloth and prevent the coloring liquid from entering such portions. After removal the cloth is embossed or printed.

*Claim.*—The improvement in the manufacture of printed table cloths or other articles of like character, the same consisting in the combination of the process of dyeing by frames, as described, with that of embossing or printing the material so dyed, or those of embossing or printing at one and the same time as set forth.

Also, the combination and arrangement of medallion or separate-color resisting blocks *b b b* with the common plaid or stripe dyeing frames *a a a*, as described, whereby the stripe or plaid dye frames may be used, as occasion may require, for dyeing cloths with grounds having undyed medallions, as set forth.

**69,099.**—M. R. JONES, Bradford, Wis.—*Subsoil Plow*.—September 24, 1867.—The subsoil plow is attached by slotted rods and bolts to the side of the common plow, so that the subsoil is lifted directly behind the horse that travels in the preceding furrow of the common plow. The change from a rear to a parallel attachment leaves the tread intact for the furrow-horse and plowman.

*Claim.*—First, a subsoil plow combined with a common plow so that the bottom of the preceding furrow may be plowed by the subsoil plow immediately forward of the furrow slice that is being turned by the common plow, substantially as and for the purposes described.

Second, subsoil plow I, shank K, with countersinks therein substantially as described, thumb screw *p*, bar L, draft rod C, and beam H, when the whole are constructed together and used substantially as and for the purposes described.

Third, beams C and H, in combination with the devices L *k* and *u* and M *d* and *e*, and the equalizing bar G, for the purpose of adjusting the distance between C and H, substantially as and for the purposes described.

Fourth, a general arrangement and combination of the parts P D G H K C I M and O, when the whole are connected together and used substantially as and for the purposes described.

**69,100.**—WILLIAM P. KELLOGG, Lansingburg, N. Y., and MILES SWEET, Troy, N. Y.—*Curry Comb*.—September 24, 1867.—Explained by the claims and illustration.

*Claim.*—In a curry comb, a series of single comb-strips A, having a base *b*, turned on only one side of each comb strip, when the bases of the comb strips are arranged with their longitudinal edges *e f* close together and fastened by rivets *c* to a back plate D, substantially as herein set forth.

Also, in a curry comb, a series of comb strips having bases fastened by rivets *c* to a back plate formed with corrugations *k* along the longitudinal edges of the bases of the comb strips, substantially as herein set forth.

**69,101.**—ROBERT KERSHAW, Norristown, Pa.—*Means for Winding or Delivering Yarn from Spools*.—September 24, 1867.—The spool is placed upon the spindle, and the beveled cap rests on the shoulder and eases the delivery of the thread from the spool.

*Claim.*—The combination of the cap D with a conical-headed stationary spool, as and for the purposes described.

**69,102.**—CHARLES KIMBALL, Portland, Me.—*Jump Seats for Carriages*.—September 24, 1867.—The seats are supported on hinge bars and are adjusted at the height required by pivoted stops.

*Claim.*—First, supporting a jump seat, such as is shown at *d*, when the same is in use, as the forward seat of a vehicle, by adjustable stops attached to the seat itself, the carriage body and operating against the posts of a carriage the supports of the seat, substantially as herein set forth and described.

Second, in combination with the pivoted supports *e* of the carriage seat and the adjustable stops, as described, shortening the seat *d*, so that it is capable of being placed in either of the three positions shown in Fig. 1, substantially as described.

**69,103.**—E. M. KIMBALL, Toledo, Ohio.—*Watch Key*.—September 24, 1867.—The blade is formed on the handle to facilitate opening the case of the watch.

*Claim.*—A watch key constructed with a sharp edge or blade *b'*, substantially as herein set forth for the purpose specified.

**69,104.**—BENJAMIN KNAPP, Bloomville, Ohio.—*Cast-iron Knee for Sleighs*.—September 24, 1867.—The metallic knee is secured by bolts or clips between the runner and the frame, to avoid the necessity of making mortises and tenons.

*Claim.*—The knee or brace D of cast or wrought metal secured to and combined with the frame and runner of a sled or sleigh by means of clips or bolts fitting in grooves along each side of the knee, substantially as set forth.

**69,105.**—JOHN W. LARMORE, Harrison, Ohio.—*Whiffletree*.—September 24, 1867.—The ends of the rod bend forward, and, passing through the apertures in the stretcher, terminate in the attachment hooks. The adjustable draft hook is secured by the set screw and regulated to the relative strength of the horses.

*Claim.*—The arrangement of the perforated stretcher A *a a'*, hooked rod B *b b'*, adjustable loop or hook C *c*, and set screw D, for the purpose set forth.

**69,106.**—ELIES W. LINDEMAN, Manor Township, Pa., assignor to himself and M. S. and H. H. HARNISH, same place.—*Safety Bridle*.—September 24, 1867.—The cheek straps run through the rings of the bit and connect with the rein, and thence passing



through the ring again form a martingale and connect with the girth. When the rein is drawn both the cheek strap and the martingale are shortened, the bit raises in the mouth, and the head is drawn down toward the girth.

*Claim.*—The arrangement and combination of the washer D D', the sliding loop E, when formed out of the continuous strap C C', forming the head stall and martingale of the bridle, and passing twice through the same ring A of the bit, all applied in the manner shown and for the purpose specified.

**69,107.**—WILLIAM LOUDEN, Fairfield, Iowa.—*Elevating and Conveying Device.*—September 24, 1867.—The pulley track can be suspended at any elevation and inclination. The pulley frame is connected to a weighted cord passing over a sheave, to insure the elevation of the material before the traveling pulley traverses the track, to convey the matter in a horizontal direction; the latter action draws up the weight, whose descent draws back the pulley.

*Claim.*—First, an elevated track or railway *a*, when suspended by means of ropes, chains, or other similar fastenings in combination with the traveling pulley D and hoisting tackle H, all arranged to operate substantially in the manner shown and described.

Second, the arrangement of the uprights B B, in combination with the bar *a*, and ropes or chains C C, substantially in the manner as and for the purpose set forth.

Third, the pulley M, independently of the track or railway A, in a position elevated to such an extent that the counterpoise weight W will act as a support to the track, substantially as set forth and described.

Fourth, the stop S on the rope I, substantially for the purpose set forth.

Fifth, attaching the pulley block E to the bar A, in the manner shown and described and for the purpose set forth.

Sixth, the stop or block L, having its inner end concaved, placed upon the bar A, and used for the purpose specified.

**69,108.**—H. MANSFIELD, Warsaw, Ind.—*Gate.*—September 24, 1867.—The cam that is attached to the bottom of the gate turns on conical rollers resting on a bed piece, and admits of the gate being hung in the center and swung in either direction.

*Claim.*—The cam D, having sharp projections P P, for carrying a gate shut, and the short curves K K, for holding it closed, in combination with conical rollers E E, arranged to turn in the projections I I, substantially as set forth.

**69,109.**—JOHN MARSH, Seneca, Ill.—*Corn Plow.*—September 24, 1867.—The plow beams are hung and adjusted in the slotted timbers. The horses are hitched to the clevises on the frame. The elongated tops of the shovels allow the engagement through them of the braces.

*Claim.*—First, the slotted timbers F F, with their holes I I I I, and their trunnions G G, substantially as and for the purpose described in the foregoing specification.

Second, the iron straps or loops H H, at the ends of the plow beams E E, in combination with the frame A, substantially as and for the purpose described.

Third, the shovels K K K K, with their upwardly projecting tail ends, substantially as and for the purpose described in the foregoing specification.

**69,110.**—MORRIS MATTSON, New York, N. Y.—*Syringe.*—September 24, 1867; antedated September 6, 1867.—The flexible pipe connecting the bulb to the nozzle adapts itself to the changes in the relative position of the bulb and nozzle.

*Claim.*—The combination and use in syringes, consisting of an elastic bulb and discharge pipe merely without the combination of valves to regulate the admission and discharge of any fluid, of a flexible tube between the elastic bulb and discharge pipe, substantially as and for the purposes set forth.

**69,111.**—WILLIAM C. MCGILL, Cincinnati, Ohio.—*Household Utensil.*—September 24, 1867.—The knife has a barb crossed by a hilt and mounted on a handle and forms a can opener, knife sharpener, and plate lifter.

*Claim.*—First, the curved cross plate or hilt E, in combination with the knife A and handle D, made and constructed substantially as and for the purpose of a can opener and plate or pan lifter, as herein set forth.

Second, the crossed steel plates G G, in combination with knife A, hilt E, and handle D, the whole forming a combined can opener, plate lifter, and knife sharpener, as herein stated.

**69,112.**—HENRY J. MILLER, Nashua, N. H.—*Boot Jack and Blacking Brush.*—September 24, 1867; antedated September 5, 1867.—The hinged blacking brush when opened out is transformed into a boot jack.

*Claim.*—The metallic frames composed of the arms A A, sides D D, flanges B B, and handles C C, constructed and hinged together as herein represented, when used in combination with the brushes F and F, as and for the purpose specified.

**69,113.**—JOHN F. MILLIGAN, St. Louis, Mo., assignor to himself and J. W. BRANCH, same place.—*Cotton Bale Tie.*—September 24, 1867.—Each end of the tie piece is pierced with a mortise for the reception of the baling band.

*Claim.*—The tie piece formed of the parts A and A', having the mortise *a* and *a'*, respectively, and being joined by a central rail *a*<sup>2</sup>, in the manner set forth, when combined with and acting upon the band ends B and B', substantially as and for the purpose described.

**69,114.**—OSSIAN C. MONROE, Poultney, Vt.—*Machine for Renovating and Cleaning Feathers.*—September 24, 1867.—The polygonal vessel has hollow bearings, and is hung in a stationary frame. The inner, hollow, cylindrical vessels are secured in a position concentric with each other, and with the outer vessel. An annular space is thus formed between the inner and central vessels for the passage of steam, and one between the central and outer vessel for holding feathers.

*Claim.*—First, the vessels A B and C, when arranged concentric with each other, and when provided with tubes D and steam pipes *e* and *f*, all made and operating substantially as and for the purpose herein shown and described.

Second, the manner herein shown and described of arranging the tubes D to prevent the water flowing from an inner revolving vessel into an outer vessel, by extending the inner end of the tubes to or near to the axis of the inner vessel by arranging tube *h* within its outer end, and by closing the outer end around the tube *h*, as set forth.

Third, the arrangement of the tubes *e* and *f*, hollow axles *d* and faucet or valve *g*, all being made so that the steam can be at will conducted to or discharged from the vessels B or C, substantially as set forth for the purpose herein shown and described.

**69,115.**—NILES NARD, Havre de Grace, Md.—*Trunk Lock.*—September 24, 1867.—The bolt has a pivoted attachment through which the key acts, and a spring catch holds this attachment in place.

*Claim.*—First, the vibrating dog or piece *c*, pivoted or hinged to the bolt plate for the purpose of retracting the same, substantially as described.

Second, the combination of the vibrating dog or piece *c*, spring catch *m* and spring lever *d*, substantially as and operating in the manner set forth.

Third, the combination of the pipe stem *h* with the spring G, carrying the stud *m* and dog *c*, substantially as and for the purposes specified.

**69,116.**—A. M. NICHOL, Granville, Ohio.—*Fence.*—September 24, 1867.—The panels are secured at foot with base blocks, and braced by stakes that engage in the slotted catches of the panels, and in the slotted head of the post.

*Claim.*—The locking and supporting the panels, as shown, in position by means of the base block C, together with the post F, brace E and clamps D and L, substantially as described.

**69,117.**—WILLIAM D. NICHOLS and NELSON W. CLARK, Chicago, Ill.—*Plow.*—September 24, 1867.—The upright standard of the subsoil plow is connected to the beam by the elasp, and to the inside of the



landside by the strap. The coulter connects the point of the subsoil plow to the landside, and is bolted thereto.

*Claim.*—First, attaching the subsoil plow C to the landside and beam of a plow, as described.

Second, the coulter D, as described.

**69,118.**—CHARLES B. ORVIS, St. Louis, Mo., assignor to JOHN B. DAVIDSON, same place.—*Treating Bone Black for Filtering Sugar.*—September 24, 1867; antedated September 13, 1868.—The bone black is saturated with a dilute solution of sulphuric acid.

*Claim.*—The defecating composition, prepared substantially as herein set forth.

**69,119.**—PETER OWENS, Chicago, Ill.—*Carriage Top.*—September 24, 1867.—The bow iron is attached by a metallic strap, screws to the head of the seat iron, and dispenses with the usual bolts and nuts.

*Claim.*—First, the bow iron of a carriage top and seat iron B, when constructed substantially as described, and connected or jointed together by means of the strap C and screws D, substantially as and for the purposes set forth.

Second, providing the bow iron A with the piece F, when constructed and operating substantially as and for the purposes described.

**69,120.**—CLINTON J. PAINE, Painesville, Ohio.—*Cotton Bale Tie.*—September 24, 1867.—The ends of the hoop pass through and are clinched around the edges of the apertures, which the projections enter and wedge the hoop tightly.

*Claim.*—The device, Fig. 1, constructed with the wedge-shaped projection C and wedge-shaped aperture B, substantially as shown and employed as a tie by using two of such devices inverted and reversed to each other, as explained, in combination with the hoop or band D, as and for the purpose specified.

**69,121.**—ALFRED PARAF, New York, N. Y.—*Producing Black in Dyeing and Printing.*—September 24, 1867.—The asphaltum is dissolved in a neutral solvent and the albumen in water. The two are mixed, and the cloth printed therewith, and then exposed to steam heat, which coagulates the albumen, and drives off the solvent of the asphaltum.

*Claim.*—The process of producing black in dyeing and printing operations by means of asphaltum and albumen, substantially as before described.

**69,122.**—DARIUS PARKHURST, St. Louis, Mo.—*Saw-mill Head Block.*—September 24, 1867.—The log is secured by dogs to the sliding frame, which is moved by pawl levers, and gearing by a rack on its lower side.

*Claim.*—First, the combination of the levers E E<sup>1</sup>, pawls h h<sup>1</sup>, spur gearings G G<sup>1</sup>, shafts D<sup>2</sup>, bevel gearings D D<sup>1</sup> and head blocks C C, arranged in the manner described.

Second, the lever L, the cam L<sup>1</sup>, with its crank U and the wheel G, when combined and arranged in the manner and for the purpose set forth.

**69,123.**—HENRY C. PAYSON, Haydenville, Mass.—*Car Coupling.*—September 24, 1867.—The draw head has a vertical series of link openings with a pivoted, gravitating catch plate, having a catch hook for each opening.

*Claim.*—The shackle B having three or more hooks a a a, and operated by the lever D, in combination with the buffer A, having the corresponding entrances c c c, arranged substantially as and for the purpose described.

**69,124.**—JOHN PHELPS, Owego, N. Y.—*Faucets.*—September 24, 1867.—A circumferential recess on the small end of the spigot communicates with the inside and is covered by gauze. To the rear plug is a pin hole to let in air to supply the place of liquor withdrawn from the barrel.

*Claim.*—First, the recessed chamber A, strainer B, and openings C C, all constructed and arranged as and for the purpose specified.

Second, in combination with the elements of the first claim the air chamber D, as and for the purpose set forth.

**69,125.**—EUGENE J. POST, Vienna, N. J.—*Spring for Vehicles.*—September 24, 1867.—Two pairs of springs are twisted so as to incline together, and their ends are adjustably connected by bolts. The spring blocks are suitably recessed to receive inclined plates.

*Claim.*—First, constructing elliptic steel springs by twisting the leaves or blades right and left, so that the center portion is at an angle with the plane of the ends, thereby obtaining greater strength and elasticity, substantially as herein described.

Second, the metal seat or spring blocks d d, constructed as and for the purposes specified.

Third, so securing the ends of duplex, contra twist springs together as to prevent them from spreading apart under the pressure of a load, as herein described.

Fourth, connecting the joints at the ends of double springs, so that they may be adjusted to bear more or less weight, and also may be made to be more or less elastic by apparatus, constructed and operating substantially in the manner herein described.

**69,126.**—JOHN T. PRICE, Arrow Rock, Mo.—*Pen and Pencil Holder.*—September 24, 1867.—The pen is held in a socket placed upon the finger.

*Claim.*—An improved mode of adjusting pens and pencils to their holders by means of the spring represented in Fig. 3 by the letter x, and an improved mode of adjusting holders on the fore finger by means of steel or gutta-percha castings, with grooves and notches, for the pens and pencils, represented in Fig. 2 by the letter y, and with sectional springs represented in Fig. 1 by the letter o, to clasp the finger, as also to permit two holders to be firmly united together as in Fig. B.

**69,127.**—JULIUS REINSCH, New York, N. Y.—*Fan Attachment to Childrens' Carriages.*—September 24, 1867.—The fan is worked by a crank on the fore axle.

*Claim.*—The combination with a child's carriage of a fan, so connected to the running gear of the carriage that the required motion will be imparted to it during the progressive motion of the carriage, substantially as herein specified.

**69,128.**—PETER RIGHTER, Newark, N. J.—*Magnetic Metal.*—September 24, 1867.—The periphery of the cylinder has alternate sections of metal and wood, and a spiral rib formed in the same manner. The cylinder rotates in the mass containing metal, and the connection is made with the battery to cause the attachment of metal to the plates, which are raised up by the rotation, and the current broken to allow the metal to drop from the cylinder into a trough.

*Claim.*—The cylinder A, helices b, magnets a, segments c, connecting plates g and h, springs j, when combined, arranged, and operated substantially in the manner and for the purposes set forth and shown.

**69,129.**—WILLIAM H. RODGERS, Brooklyn, N. Y.—*Measuring Funnel.*—September 24, 1867.—The covered funnel is attached to the faucet by a clamp, and has a stop valve for closing the outlet and an indicator for measuring the contents.

*Claim.*—First, the cover and clamp to attach to a faucet, in combination with the measure and funnel, provided with a valve, as and for the purpose specified.

Second, in combination with said measure and valve i, the lever K, connected to the cock for raising the valve, as set forth.

**69,130.**—JOHN B. SEYMOUR, Pittsburg, Pa.—*Seed Planter.*—September 24, 1867; antedated September 7, 1867.—The corn is contained in the upper box and is allowed to fall in proper quantity into the lower one, from which it is ejected by pressure on the plunger rod.

*Claim.*—A seed planter, consisting of the boxes A and B, plunger a, rod b, spring g, and cut-off d, all made and operating substantially as herein shown, and described.

**69,131.**—N. MENDAL SHAFER, New York, N. Y.—*Blotter Holder.*—September 24, 1867; antedated September 12, 1867.—The blotter sheet is drawn into



the strip which is bent in V-form to receive it, and is held therein by a plain strip connected to an elastic cord at the back of the book.

*Claim.*—First, the mode of securing a blotter to a frame and the latter to a book, substantially as and for the purpose herein set forth.

Second, the combination of bent plate A, plate B, hole C, wire F, hook D, and bend E, substantially as and for the purpose set forth.

Third, the employment of the elastic cord H, or its equivalent, substantially as and for the purpose herein set forth.

**69,132.**—JOHN W. SHEAFFER, Lockport, Ill.—*Swing.*—September 24, 1867.—The handle is adjustably connected to the swing-bars and is the means of enforcing a swinging action.

*Claim.*—The adjustable handle I, with its connecting bars J J, when used in combination with the swing bars C C C<sup>1</sup> C<sup>1</sup>, and the seat F, as and for the purpose set forth.

**69,133.**—GEORGE SMALL, Clayton, Mich., assignor to HARVEY WILLIAMS, Otsego, N. Y.—*Feed Cutter.*—September 24, 1867.—The cutter-wheel shaft has a bevel pinion, which may be engaged with either of two concentric gears on a wheel connected to the feed rollers to regulate the rate of the feed.

*Claim.*—The combination of the several parts comprising this machine, when arranged as described and set forth for the purpose specified.

**69,134.**—GEORGE L. SMITH, Brooklyn, N. Y.—*Circular Grate for Furnaces.*—September 24, 1867.—Arched, concentric bars unite the radial bars of the segments; the latter rest on the circumjacent walls and upon a central, circular section which is supported by a post.

*Claim.*—First, the construction of a circular grate of a series of segments or sections B, surrounding a central section A, substantially as described.

Second, the construction of the segments B with concentric and arched cross-bars B<sup>2</sup>, substantially as described.

Third, an independent central support for the section A and segments B of a circular grate, constructed substantially as described.

**69,135.**—HENRY SNOWDEN, Baltimore, Md.—*Head Rest for Chairs.*—September 24, 1867.—A cushion attached to the chair has adjustments to any distance, position and inclination.

*Claim.*—The head rest above described, composed of the rods A and E, frame C, movable block D, and set screw F, having the cushion supported by the arms B B, all constructed and arranged substantially as and for the purpose specified.

**69,136.**—SIMON SOULES, Cresco, Iowa.—*Potato Digger.*—September 24, 1867.—The shovels are attached to the adjustable vibrating frame and terminate at their rear ends in a grating, on which the potatoes are cleaned by the action of the curved arms.

*Claim.*—First, the combination with the vibrating shovel-carrying beams D D and the devices G G<sup>1</sup> f and G<sup>2</sup> of a screen and revolving separator, the latter receiving its motion from the driving and transporting wheels, substantially as described.

Second, the construction of the screen F F<sup>1</sup> in combination with the curved separating arms e e, applied to a revolving shaft C, said screen and shaft being supported upon a vibrating shovel-carrying frame, substantially as described.

Third, adapting the grooved drum C, carrying arms e, to serve as a support for, and a means of keeping in place the rods composing the screen, substantially as described.

Fourth, arranging the drum C, with its curved arms e, in such manner that these arms serve as elevators for transferring the potatoes from the front to the rear portions of the screen F, and at the same time serve as separators for freeing the potatoes from earth, substantially as described.

**69,137.**—M. E. STANGER, Wheeling Ill.—*Shovel Plow.*—September 24, 1867.—The share is laterally extensible by its pivoted wings.

*Claim.*—A shovel plow having wings C C jointed to it and arranged, by means of a series of holes 1 2 3

4, &c., for turning a wide or narrow furrow, substantially as set forth.

**69,138.**—G. W. STATES and A. W. LUTTS, Norwalk, Ohio.—*Farm Gate.*—September 24, 1867.—The gate is raised by the pivoted lever which is kept in position by the self-acting dog.

*Claim.*—The means of applying a lever in combination with self-adjusting dog, to raise farm gates with greater ease, and the device of the notch F and the hinges C, whereby we secure greater strength and durability.

**69,139.**—JOHN S. STOCKHAM, Red Dog, Cal.—*Rock Drill.*—September 24, 1867.—The revolving cams retract the drill rod and the recoil of the spring drives the drill against the rock.

*Claim.*—The drill constructed with the drill rod E, the tappet F, spring G, and cam I, operating within the swinging frame D, supported by standard B, for giving universal motion, substantially as described.

**69,140.**—WESLEY H. STROUP, Pittsburg, Pa.—*Corset.*—September 24, 1867.—The corset has a series of studs entering elongated slots to allow of expansion when required. A tighter fastening has a series of studs entering open ended slots and confined by pivoted segmental plates which may be simultaneously retracted by a common cord to release the studs and allow the corset to expand.

*Claim.*—First, a corset fastening, the female part of which is provided with a movable guard k, actuated by cords C, the whole constructed and operating substantially as described, in combination with a corset provided with a detachable fastening, as hereinbefore described.

Second, the button attachment B, arranged to operate substantially as set forth.

**69,141.**—HENRY THOMPSON, Wyocena, Wis.—*Washing Machine.*—September 24, 1867.—The oscillating lever is pivoted to blocks which traverse on rollers in the suds box, their corrugated faces pounding the clothes against the corrugated surface inside the box.

*Claim.*—The combination of lever C, cross bar G, blocks H H, and toothed lining L, arranged, constructed, and operating in the manner substantially as shown and described and for the purpose set forth.

**69,142.**—NATHAN THOMPSON, London, England.—*Pipe Coupling.*—September 24, 1867; English patent March 15, 1867.—Each portion of the coupling has flanges and a segment of a cap, which, when the parts are together, form a cylinder around the packing ring. The parts are slipped together laterally, and pivoted cams on one engage the flange of the other to press the parts together and make a tight joint.

*Claim.*—First, the general combination and arrangement of parts for connecting together the ends of pipes or tubes, substantially as herein shown and described.

Second, the application of cams, eccentrics, or locking pieces e e, or equivalents therefor, substantially as and for the purpose herein shown and described.

Third, the mode, herein shown and described, of operating upon such cams, eccentrics, or locking pieces e e, by means of levers f, substantially as and for the purpose herein shown and described.

**69,143.**—NATHAN THOMPSON, London, England.—*Closing the Mouths of Bottles, Jars, &c.*—September 24, 1867; English patent March 28, 1867.—The ring is cemented to the neck, and the cam pivoted thereto is made by oscillation to press down the cover upon the lip of the bottle.

*Claim.*—First, the combination and arrangement of means or apparatus for closing the mouths of bottles, jars, and other vessels, substantially in the manner herein shown and described.

Second, the employment of cams, eccentrics, or pressing pieces d, acting to press the stopper c firmly to the neck of the bottle, jar, or other vessel, so as to close the mouth thereof, substantially in the manner herein shown.



**69,144.**—IBROOK TOWER, Milford, Mich.—*Fruit Picker*.—September 24, 1867.—The cushioned arm arrests the fruit as it falls through the conveyer, and breaking the violence of the fall prevents bruising.

*Claim.*—First, the cushioned arm N, or its equivalent, for the purpose designed.

Second, the combination and arrangement of the cushioned arm N with the other parts of a fruit picker, arranged substantially as described for the purpose designed.

**69,145.**—E. W. VAILL, Worcester, Mass.—*Folding Chair*.—September 24, 1867.—The back is hinged to the rear legs and the slotted arms are pivoted to the back and to the upper portion of the front legs, taking outside positions when the other portions are folded parallel, or nearly so.

*Claim.*—First, the curved hinge H H<sup>1</sup> in combination with the legs B B<sup>1</sup>, arms E E<sup>1</sup>, and the standards S S, of a folding chair, substantially as and for the purpose described.

Second, the chair above described, consisting of the curved legs A A<sup>1</sup> B B<sup>1</sup>, rounds R R R<sup>1</sup>, curved and slotted arms E E<sup>1</sup>, curved hinges H H<sup>1</sup>, cross bars C C<sup>1</sup>, traverses T T<sup>1</sup>, and standards S S, all constructed, combined, arranged, and operated substantially in the manner and for the purposes specified.

**69,146.**—ALBERT S. WILKINSON, Pawtucket, R. I.—*Horseshoe*.—September 24, 1867.—The horseshoe has a continuous sole of india-rubber, serving to relieve the concussion.

*Claim.*—First, the combination of the metallic plate a, either jointed or otherwise, with a casing B of elastic material, extending continuously around it, substantially as and for the purpose set forth.

Second, the secondary plate A, in combination with the plate a and casing B, substantially as specified.

Third, the combination of the metallic toe piece e with the plate a, or A, and rubber sole B, substantially as and for the purposes set forth.

**69,147.**—J. B. WILSON, May's Landing, N. J., assignor to ELEANOR WILSON and ALLEN T. WILSON, same place.—*Axle for Vehicles*.—September 24, 1867.—The end of the axle is socketed in the scoop-shaped arm of the hub spindle. The spindle is hollow, has a flange for a butting ring, and a nut whose margin comes against a shoulder in the boxing of the hub.

*Claim.*—First, an axle, consisting of a central wooden shaft A and metal ends B B having hollow arms c, constructed for the reception of the ends of the said shaft, substantially as described.

Second, the metal end B, consisting of a hollow journal a, collar b, and an arm c, when the said parts are constructed and arranged in respect to each other, substantially as and for the purpose set forth.

**69,148.**—JOHN WOOD, Lowell, Mass.—*Ladies' Work Table*.—September 24, 1867.—The lid being raised exposes the tray and the tray being lifted shows a capacious chamber beneath.

*Claim.*—A work table with tray c, and box d, arranged substantially as described and for the purpose fully set forth.

**69,149.**—A. B. WOODBURY, Ashuelot, N. H.—*Jack Spinning Machine*.—September 24, 1867.—The purpose is to effect the even winding of the yarn upon the spindles while the carriage is being run in from time to time. The hollow post on the carriage has a slot in its front side, and within it is a rack bar and a lifter arm, which extends beneath the faller wire, which is arranged in the ordinary manner with respect to the spindles and bobbins.

*Claim.*—In combination with the jack carriage and the faller or wire mechanism, substantially as described, for intermittently raising the faller or wire in order to regulate the laying of the yarns upon the bobbins, while the carriage is being run in from time to time.

Also, the combination, substantially as described, applied to the jack carriage, faller or wire, and frame, for regulating the laying of the yarn upon the bobbins, such consisting of the lifter c<sup>1</sup>, the spur gear and ratchet, the lever and its pawl or pawls, and the tripper, the whole being applied together and to the carriage and frame, and with respect to the faller or wire, as hereinbefore explained.

**69,150.**—CAREY WORDEN, Binghamton, N. Y.—*Nutmeg Grater*.—September 24, 1867.—The nutmeg is placed beneath the follower, and the grater reciprocated by means of the crank and connections.

*Claim.*—The construction and arrangement of the frame A, grater B, slotted plate G, slide holder H, spring and follower J, substantially as described and represented for the purpose set forth.

**69,151.**—HOMER WRIGHT, Pittsburg, Pa.—*Jug Top*.—September 24, 1867.—The hinge piece protrudes through the lid, which is a swaged piece of sheet metal and is fastened to the hinge piece.

*Claim.*—First, combining the hinge and knob of a jug top in one piece, as substantially specified.

Second, the opening H in the lid, when used in combination with the hinge and knob piece, as set forth.

Third, the convex bulge P on the lid, when used in combination with the hinge and knob piece, and opening H in the lid, as substantially set forth.

**69,152.**—GEORGE W. YOUNG, San Francisco, Cal., assignor to GEORGE W. SMITH, same place.—*Carpet Cleaner*.—September 24, 1867.—The carpet is wound upon one roller and passes to another, being subjected on its passage to revolving beaters and reciprocating diagonal brushes.

*Claim.*—The whips, in combination with the beaters, as shown and set forth.

Also, the combination of the combined whip beaters with the brushes D D, according to arrangements above described, and for the purposes above specified.

**69,153.**—ROBERT ALLISON, Port Carbon, Pa.—*Steam Engine*.—September 24, 1867.—The piston impinges against rods packed and sliding in the cylinder heads. These rods are attached to a sliding bar, and a block, sliding in the slot of the bar, operates the conical steam valve of the supplementary cylinder. The piston rod of this cylinder forms the valve stem of the main cylinder, operating the slide valve of the same. The action of the piston upon the pump is direct.

*Claim.*—First, the supplementary cylinder B with its piston F and valve o, the rod N, the bar G, and the rods J and K, arranged and operating substantially as shown and described for the purpose set forth.

Second, in combination with the supplementary cylinder, the sliding block a, and the stop plate c, substantially as and for the purposes set forth.

**69,154.**—ANDREW D. ARMSTRONG, Pittsburg, Pa.—*Can*.—September 24, 1867.—The flange of the lid engages between the double rim to insure a tight joint.

*Claim.*—The can A, provided with the internal rim B, in manner and for the purpose substantially as set forth and described.

**69,155.**—JOHN W. BAKER, Parkersburg, W. Va.—*Hydrant*.—September 24, 1867.—The lever and connecting rod turn the cock at the point where the branch unites with the main. When turned off a small opening leads through the spigot to the waste pipe, to employ the service pipe.

*Claim.*—First, the arrangement, as described, of the shut-off cock and waste way immediately at the main, for the purpose set forth.

Second, the combination, substantially as described, of the shut-off cock and waste way at the main, with the hand lever and connecting rod, for the purpose set forth.

Third, the combination with the inclined supply pipe of the shut-off cock and waste ways i I immediately at the main, for the purpose set forth.

**69,156.**—JOHN W. BAKER, Parkersburg, W. Va.—*Fire Plug*.—September 24, 1867.—At the point where the branch pipe is coupled to the main, the stop cock is placed, and it is operated by gearing and connecting shafts from a hand wheel in the vicinity of the plug.

*Claim.*—The combination, substantially as described, of a shut-off valve or stop cock and waste-way immediately at the main, with a train of gearing operated from the plug.

**69,157.**—JONATHAN BALDWIN, Northampton, Mass.—*Cutlery*.—September 24, 1867.—The scales are



secured to the tang by melted metal that is poured into the slots in the scales and tang.

*Claim.*—First, the method of attaching the scales of a knife-handle to the tang, by means of dovetailed grooves cut into the former, into which metal is run through the tang, substantially as herein described.

Second, the method, herein described, of attaching the shoulders F F to the tang by means of the dovetailed grooves *a a*, and metal cast in, substantially as shown.

**69,158.**—Cancelled.

**69,159.**—SAMUEL BARBOUR, Lisburn, Ireland.—*Machine for Finishing Thread.*—September 24, 1867; English patent, May 14, 1866.—The hanks are laid over tension pulleys which are carried by short cranked hooks that are mounted on a longitudinal raising bar. The longitudinal fixed frame constitutes a portion of the main frame. The bar is free to move up and down to permit the hanks being held at tension and to allow of contraction when twisted. To the shank of each bottom hook a helical spring is applied so that as the hook is lifted by the thread the spring is compressed until the bottom movable rail is equally sustained by each hank.

*Claim.*—First, the bottom hooks *b*, revolving upon their axles, each adjoining pair connected by toothed wheels *b*<sup>3</sup> to equalize the tensional strain on the hanks, as herein shown and described.

Second, the combination of the hooks *b*, ratchet wheel *e*<sup>1</sup>, catch *e*<sup>2</sup>, spindle *e*<sup>4</sup>, weighted lever *e*<sup>5</sup>, and weighted cord *e*<sup>6</sup>, all operating as described to equalize the finish on the thread, as herein set forth.

Third, the weights *f*<sup>1</sup>, levers *f*, pulleys *f*<sup>2</sup>, and ropes or chains *g g*<sup>1</sup>, in combination with the bar *h* and its hooks *b*, for regulating the tension on all the hanks simultaneously, as herein shown and described.

**69,160.**—SILAS BARKER, Hartford, Conn.—*Axle Box.*—September 24, 1867.—A sleeve is fitted in the box of the hub so as to run upon the spindle and it may be removed as it is worn.

*Claim.*—The combination of the bushing *d* with the axle box C, when constructed so as to be replaced, substantially in the manner herein set forth.

**69,161.**—J. H. BARLEY, Sedalia, Mo.—*Cane Stripper.*—September 24, 1867.—The instrument has a blade for topping and a pair of curved jaws which are drawn together by pressure on the spring handle.

*Claim.*—The implement A, consisting of blade B and jaws C and F, constructed together substantially as and for the purpose specified.

**69,162.**—J. H. BARLEY, Sedalia, Mo.—*Cultivator.*—September 24, 1867.—The central plows are raised by a treadle and sustained by a rack. Handles are connected to these plows by which they may be moved laterally by the driver.

*Claim.*—The combination and arrangement of the loop or bent hook J, bent lever I, connecting rod or chain K, and lever pawl L with each other, and with the frames D and E of the cultivator, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the rack M with the standard of the frame E, and with the lever pawl L, to operate in connection with the loop or bent hook J and bent lever I, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the pivoted seat bars N, and adjustable holders O, with the side bars of the cultivator frame C, substantially as herein shown and described and for the purpose set forth.

Fourth, the shield F constructed with flanges *f*<sup>1</sup> and wings *f*<sup>2</sup>, and connected to the frames E and D by the bar G and chains H, substantially as herein shown and described and for the purpose set forth.

**69,163.**—J. F. BARRETT, Concord, Mass.—*Rubber Boot Heel.*—September 24, 1867.—The nails are driven downward through the sole into the rubber boot heel and meet with a plate imbedded therein which deflects their points and turns them into a clinching position.

*Claim.*—The employment of a clinching plate of metal or other material for the purpose of turning the points of nails used in securing elastic parts to the

surface to which they are to be attached, substantially as set forth.

**69,164.**—GEORGE BEATTY, Carrollton, Ohio.—*Sheep Shed and Rack.*—September 24, 1867.—The trough is fixed to oscillate on bearings. In one position it is conveniently exposed to receive the feed, and in the other it is presented to the sheep. The rack above holds hay.

*Claim.*—The vibrating feed trough E, and rack D *a b b*<sup>1</sup> c, arranged and operating substantially as described, in combination with a sheep shed as set forth.

**69,165.**—JOHN F. BERNARD, Leominster, Mass.—*Composition for Filling the Pores of Wood.*—September 24, 1867.—For filling the pores of wood previous to polishing. Composed of asphaltum varnish, 1 pint; boiled linseed oil, 1 quart; spirits of turpentine, 1 quart; French yellow, 1 pound; whiting, 10 pounds; plaster of paris, 2 pounds; vandyke brown,  $\frac{1}{2}$  pound; pumice stone,  $1\frac{1}{2}$  pound.

*Claim.*—The within described composition made of the ingredients set forth, and mixed together substantially in the manner and for the purpose specified.

**69,166.**—JOHN BLACKADDER, New Orleans, La.—*City Car and Omnibus Fare Box.*—September 24, 1867.—By mirrors suitably placed the passenger or driver can see the contents of the pocket in the wheel which temporarily receives the fare.

*Claim.*—First, the reflectors C, combined with a money-receiving box of a car or carriage, arranged substantially as and for the purposes set forth, or so that the deposited ticket or money, or a representation thereof, can be seen by both driver and passenger.

Second, in combination with the above, the glass window B, glass guides D and D<sup>1</sup> and the wheel C<sup>1</sup>, arranged as described for the purpose specified.

**69,167.**—JOHN BLACKWOOD and THEODORE C. WILSON, Cincinnati, Ohio.—*Hand-spinning Machine.*—September 24, 1867.—The spindles stand in the arc of a circle, and are rotated by a single cord. The pinion of the feed rolls is brought in contact with a rack by a lever, so that the reciprocation of the carriage causes rotation of the rolls when the lever is depressed. This lever works another lever connected to two ratchet-sided pulleys which run loose on their vertical motive shaft, but may be raised or lowered to bring either one in connection with a pin. These pulleys cause respectively forward and backward movement of the carriage by means of cords.

*Claim.*—First, the loose pulleys *s s'* on the shaft *h*, in combination with the slotted lever *p*, the long lever C, the pulleys *u u*, bands *w w*, and the carriage B, arranged and operating substantially as and for the purposes described.

Second, the combination of the feed rolls *b b'*, the pinion *c*, the rack *d*, the slotted lever *p*, the pulleys *s s'*, and the carriage B, arranged and operating substantially as set forth.

**69,168.**—JOHAN BLOMGREN and CARLE ANDERSEN, Galesburg, Ill.—*Painter's Scaffold.*—September 24, 1867.—The frames are telescopic, one slipping within the other; each has its ladder and floors, and the vertical adjustment is obtained by rope-winding drums and pulleys.

*Claim.*—The extension scaffold above described, composed of frames 1 2 3, &c., containing the floors I I I', and the ladders *e e' e''*, elevated or lowered by the rollers D and M, and the cords K K', and stopped by the pawls *p p*<sup>1</sup> *p*<sup>2</sup>, all constructed and operated substantially as and for the purpose specified.

**69,169.**—LUKE W. and ROBERT A. BLOOD, Springfield, N. H.—*Water Wheel.*—September 24, 1867.—The periphery of the wheel is formed of an angularly-corrugated plate, giving it a star shape, the disks forming the heads of the wheel being perforated obliquely between the angular projections to afford escape for the water. The ends of the projections have lips to receive the percussive force of the water as it leaves the chutes.

*Claim.*—The star-pointed bucket E, formed by the intersections of the sides *f g*, as shown and described,



in combination with the air or vent holes *i*, the whole constructed substantially as set forth.

Also, in combination with the above, the pieces *h*, substantially as and for the purpose set forth.

**69,170.**—THOMAS BRADLEY, Preble, N. Y.—*Hand Seeder*.—September 24, 1867.—The seed box has pipes that connect with intersecting apertures in the roller through which the seed is dropped when the roller is oscillated by the cord.

*Claim.*—The arrangement with the hoe of the roller C, with the cavities *c c*, operated by the cord *g*, in conjunction with the elastic spring D, to receive the seeds from the box B through the holes *a a*, in the plank piece A, and discharge them through the holes *b b*, substantially as described.

**69,171.**—JOSEPH BRAUM, Bridgewater, Pa.—*Dryer for Scoured Clothes*.—September 24, 1867.—Explained by the claim and illustration.

*Claim.*—The use of a hollow metallic core, the form of which corresponds to the form of the human body and its wearing apparel, said metallic core being used with steam, substantially as herein described and for the purpose set forth.

**69,172.**—JAMES B. BROWN, Middletown, N. Y., assignor to himself and JOSHUA DRAPER.—*Hat Block*.—September 24, 1867.—Explained by the claim.

*Claim.*—As an article of manufacture, an emery or sand covered cone for the purpose described, substantially as specified.

**69,173.**—CHARLES BUCKLEY, JR., Rochester, N. Y.—*Nut Fastener*.—September 24, 1867.—The nut having been rotated into the required position it is locked by the key piece, which is dropped in between one square side of the washer and the shoulder which rises from the upper face of the washer.

*Claim.*—The combination of the concentric shoulder *c c'* of the fixed washer C with the key *d*, nut B, and bolt A, arranged and operating substantially as and for the purposes set forth.

**69,174.**—J. BURNS, New York, N. Y.—*Grinding Mill*.—September 24, 1867.—The inverted frusto-conical grinder has spiral inclines with a short ribbed portion at its lower end. The concave is sharply ribbed. It is intended to granulate the coffee without making it dusty.

*Claim.*—The construction of the crusher *d*, the same being provided with spiral tapering shoulders *d'*, which are made and operating substantially as herein shown and described.

**69,175.**—GEORGE R. BURT, Perry, N. Y.—*Land Roller*.—September 24, 1867.—The iron hoops or bands secure the staves which form the cylindrical rollers. The break-shoes rest on the bands when pressed by the feet in descending a hill. The easter wheel rolls what is left untouched between the other two rollers.

*Claim.*—First, the rollers C, when provided with the flanges or bands D, upon the inner ones of which the brakes J bear as herein set forth for the purpose specified.

Second, the easter roller E, in combination with the roller C, flanges or pins D, and brakes J, as herein shown and described.

Third, the combination of the spring brake H I J with the seat frame F and cylinders C, substantially as herein shown and described and for the purpose set forth.

Fourth, the rollers C C, when suspended from the same shaft B, beneath the frame A, constructed as herein described.

**69,176.**—WILLIAM CAMPBELL, New York, N. Y.—*Window Shade Fixture*.—September 24, 1867.—One end of the roller turns in its bracket and the other on a fixed rod to which it is connected by a spring. The roller has detent pins which slide nearly radially in the roller and engage the flattened part of the rod. When turning fast, the centrifugal force slides out the pins; otherwise the upper pin gravitates to the engaging position.

*Claim.*—The combination of the loose or sliding pins or bolts F, having heads formed upon them with the flattened or notched shaft D, substantially as

herein shown and described, and for the purpose set forth.

**69,177.**—H. S. CARLEY, Cambridgeport, Mass.—*Bottle*.—September 24, 1867.—For the purpose of retaining the cork, but allowing the contents of the bottle to be withdrawn. The cork is pierced by and slips upon a stirrup-shaped wire whose ends catch upon a shoulder inside the neck of the bottle.

*Claim.*—A bottle provided with a shoulder C, on the inside of its neck, near to its mouth, substantially as and for the purpose herein shown and described.

**69,178.**—JOSEPH CHASE, Worcester, Mass.—*Machine for Making Clouded Yarn*.—September 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination in a machine as described, with the yarn feed rolls of the roving feed rolls or their equivalent, in such manner that while the yarn or main thread is fed forward with a continuous motion the feed of the roving to the said thread shall be intermittent, as and for the purpose specified.

Second, the combination of the yarn feed rolls with the rolls for producing the intermittent feed of the roving arranged and mounted in the machine relatively to the said yarn feed rolls, as and for the purposes herein described.

Third, the combination with the feed rolls G G' and F F', of the yarn guide H, whereby the yarn is fed down upon the back of the roll F, while the end of the roving is left in close proximity to the latter, as shown and described.

Fourth, the combination with a machine for winding and twisting threads of yarn of an intermittent roving feeding mechanism for clouding the yarn, substantially as set forth.

**69,179.**—J. C. CLINE, Philadelphia, Pa.—*Teaching Music*.—September 24, 1867; antedated September 11, 1867.—Diagrams are constructed so that the sounds which combine to form chords may be ascertained and the proper keys of a piano indicated to a pupil.

*Claim.*—First, a diagram consisting of the representation of a key board, and a series of lines so arranged as to form spaces opposite to the keys represented in the key board, the said space containing signs or marks indicating the keys to be struck together, all substantially as and for the purpose described.

Second, a diagram representing a key board in which a mark or sign is placed on each black key to be struck as set forth.

**69,180.**—PHILIP COHEN, St. Joseph, Mo.—*Coat*.—September 24, 1867.—The tails are made to fold around as a dress coat, or to be extended as a frock coat.

*Claim.*—A coat, the skirt portion of which is made adjustable in size substantially as and for the purpose specified.

**69,181.**—EZRA COLE, Fairfield, Mich.—*Buckle*.—September 24, 1867.—The frame has at one end a loop and at the other a plate; on its under side is a tongue pin, engaging the strap which passes forward under the plate.

*Claim.*—The buckle constructed as described, consisting of the curved frame A, having at one end the plate C, provided with a downward projection or lug D, in combination with the bail E, whose pins F rest and slide upon the upper edges of the curved frame A as herein described, as and for the purpose specified.

**69,182.**—EZRA COLE, Fairfield, Mich.—*Buckle*.—September 24, 1867.—The trace or strap passes beneath two bars, and under a plate whose stud enters the holes of said trace. The plate is held down by the upward pressure of the trace on one of the bars, which is connected by hinged side pieces to said plate.

*Claim.*—A buckle, consisting of the plate B and frame F, having swiveled tongue plate E, when all constructed substantially as and for the purpose described.



**69,183.**—GILBERT M. COLE, Folsom City, Cal.—*Pump*.—September 24, 1867.—The plunger has two pistons with an intervening space. Fixed in the cylinder, and between the induction and eduction openings, is a double diaphragm with four valves.

*Claim.*—The combination of the valves *a b c d*, valve seats I, pistons C D, bar H, chamber E, and cylinder A, substantially as described, for the purpose specified.

**69,184.**—WILLIAM T. COLE, New York, N. Y., assignor to himself, JACOB HUNTER and PETER P. KELLER, same place.—*Chuck*.—September 24, 1867.—The object is received in an axial opening of the chuck, and engaged by the pawls which are pivoted to the annular plate, and whose outer, rounded ends enter cavities of the outer ring, so that a partial rotation of the latter upon the former will tighten the pawls upon the object.

*Claim.*—The combination of the pawls B, oscillating plate C, and revolving box A, all constructed and operating substantially as herein shown and described.

**69,185.**—HENRY E. COLTON, New York, N. Y., assignor to himself and C. T. RAYNOLDS & Co., same place.—*Metallic Paint*.—September 24, 1867.—Explained by the claim.

*Claim.*—The use of the oxide of zinc, and the oxide of lead, &c., combined with mineral and animal oils, in a paint or pigment for covering the bottoms of iron vessels and other iron surfaces, substantially as described.

**69,186.**—J. W. CONNELLY, Charleston, Ill.—*Cultivator*.—September 24, 1867.—Improvement on his patent, February 19, 1867. The wheels are adjusted on the crank-shaped spindles of the axles to regulate the working length of the axle. The plows are projected forward and raised by the lever which connects with them by chains.

*Claim.*—First, the slotted adjustable crank spindles B in combination with the axle A and wheels C, substantially as herein shown and described and for the purpose set forth.

Second, pivoting the forward ends of the beams K to the longitudinal bars D by means of bent or elbow bolts S, substantially as herein shown and described.

Third, pivoting the forward ends of the beams K to the tongue G by means of the bent or elbow bolts U, substantially as herein shown and described.

Fourth, pivoting the forward ends of the beams K to the front cross-bar E by means of elbow or bent swinging bolts T, substantially as herein shown and described.

Fifth, pivoting the forward ends of the beams K to the front cross-bar E, by means of the strap or band X passing around the said cross-bar E, and secured to the ends of the said beams K, substantially as herein shown and described.

**69,187.**—L. D. COPELAND, Chenango Forks, N. Y.—*Hay Raker and Loader*.—September 24, 1867.—The rake bars are carried on endless chains. The upper pulley shaft has a segmental gear which intermittently rotates the clearer, which removes the hay from the rakes.

*Claim.*—First, the movable and adjustable bearing of the driving-wheel shaft for adapting the machine to the different kinds of work, and for allowing the machine to be moved when not at work, as recited.

Second, the toothed wheel *y* and pinions *z* with the pawl *x* for operating and controlling the pitcher, or the equivalents of those means for that purpose.

**69,188.**—HORACE CROSSMAN, Providence, R. I., assignor to himself and ALBERT BRIGGS.—*Self-acting Mule*.—September 24, 1867.—The "relief lever" is connected with the locking mechanism of the "faller" by an intermediate lever. After the faller has been locked the chain which depresses the faller to position is not subject to change with the changing position of the locking mechanism.

*Claim.*—First, connecting the faller locking mechanism with the relief lever in a self-acting mule by an intermediate lever connection, operating substantially as described for the purposes specified.

Second, imparting a slow movement to the delivery rollers in a self-acting mule during the time that the

carriage is running in, by the means substantially as described.

Third, the combination and arrangement of the catch wheel I, holding dog L, and lever I, with the mule carriage, substantially as described for the purpose specified.

Fourth, combining the main cam shaft in a self-acting mule with a chain gear, as arranged and shown, to give motion to the same, substantially as described.

Fifth, the combination of the escapement plate P, whose periphery is formed with ratchet teeth, as shown, with a spring brake and stop Q, substantially as described.

Sixth, combining a mule carriage with its source of motion by means of the peculiar friction clutch R, substantially as described.

**69,189.**—JACOB DAVID, New York, N. Y.—*Curtain Fixture*.—September 24, 1867.—The roller is tubular and contains a rod fixed in one bracket, around which is a spiral spring by which the blind is drawn up.

*Claim.*—First, the arm or detent K arranged upon the roller in such a manner that it moves toward and away from the center or axis of the roller *a* by the action of gravity and centrifugal force, substantially as described.

Second, the combination and arrangement at the same end of a shade roller of the spring *e*, rod *d*, and arm or detent *k*, or their mechanical equivalents, substantially as described.

**69,190.**—LYMAN DERBY, New York, N. Y.—*Thill Coupling*.—September 24, 1867.—The thills are lifted considerably above their working position, and the curved ends of the thill irons inserted between the lugs at the front of the clips and the rubber-covered metallic rollers. Being lowered into working position, the curve opposes retraction.

*Claim.*—The curved thill iron E in combination with the roller C, covered with india-rubber or other suitable material and fitted between lugs or ears *a a* at the front side of the clip B, and the bottom plate *a* of the lugs or ears curved at its upper surface, substantially as shown and described.

**69,191.**—BENJAMIN K. DORWORT, Lancaster, Pa., and WASHINGTON J. HINES, Frederick, Md.—*Fence*.—September 24, 1867.—The fence panels are set in worm form and connected by a catch bar with a piece extending through between the panels and held by a key, which traverses a slot in the same.

*Claim.*—The brace board A with its notches *a a* cut out in the manner shown, with its attached central cross piece C slotted, in combination with the wedge or key W, arranged in all its parts, and applied in the manner and for the purpose specified.

**69,192.**—RICHARD B. DOUGLASS, Cleveland, Ohio.—*Apparatus for Filtering Petroleum*.—September 24, 1867; antedated September 12, 1867.—The petroleum is placed in a filtering cylinder and forced through by a descending piston.

*Claim.*—The drum filter E in combination with the cylinder A, the inlet and eduction cocks C K, and dirt discharge P, substantially as described.

**69,193.**—JULIUS DREUSIKE, Cincinnati, Ohio.—*Bed Bottom*.—September 24, 1867.—The spiral wires run longitudinally, interlocking with those on each side. The ends of the wires are enveloped in strips of felt, smeared with white lead, and metallic strips secured over. The interstices at the attachment are filled in with cement.

*Claim.*—The bed bottom having the interlocked spiral wires B secured to the grooved head and foot rails by the devices C D d E, substantially as and for the purpose set forth.

**69,194.**—THOMAS A. EDMISON, Lakeport, Mich.—*Turning Plate for Carriages*.—September 24, 1867.—The fifth wheel is connected to the spring bolster. It rests upon anti-friction rollers over the axle, and runs around between rollers over the central reach.

*Claim.*—The plate C, with its rollers, in combination with the turning plate or ring of a vehicle, substantially as and for the purpose described.



**69,195.**—WEBSTER ELLYSON, West Branch, Iowa.—*Sheep-shearing Table*.—September 24, 1867.—Explained by the claim and illustration.

*Claim.*—An improved device for holding sheep while being shorn, formed by the combination of the platform A, having hinged ends, hinged adjustable side boards C, adjustable supporting racks E, straps D and F, lever pawls G, catches H, and brace blocks J, with each other, substantially as herein shown and described.

**69,196.**—GEORGE B. ELY, St. Johnsbury, Vt.—*Manufacture of Hay and Other Forks*.—September 24, 1867.—The segment dies have grooves of the necessary form to shape the tines, and are operated by the hand crank and connecting gearing.

*Claim.*—First, the combination of the dies E, wheels D, shafts B, plates F, all constructed and arranged substantially as described and for the purpose specified.

Second, the dies E, shaft B, having plate F and set screws G, wheels D, with the groove and tongue gear wheels C and standards A, all constructed and arranged as described, whereby hay and manure fork tines are drawn and bent, substantially as described for the purpose specified.

**69,197.**—W. H. ENGLISH, Macon, Ga.—*Carriage Spring*.—September 24, 1867.—The narrow strips are clamped to the plates by screws and straps.

*Claim.*—An elliptic or semi-elliptic spring for vehicles, constructed of curved elastic steel plates with a narrow or thin rib of steel applied to their exterior surfaces, substantially as shown and described.

**69,198.**—ELISHA E. EVERETT, Philadelphia, Pa.—*Spring Bed Bottom*.—September 24, 1867.—The ends of the slats are sustained on compound spring hooks, which run under and engage side pins on the slats. The hooks are attached to cross-bars.

*Claim.*—First, the transverse bars D, having one or more grooves, in combination with the pin E, arranged to receive the coils of the spring, and to fit the said groove, all substantially as set forth.

Second, the within-described spring, having ends *d d* fitting into the transverse bars D, and being bent and arranged for the reception of the slats and pins *i i*, substantially as set forth.

Third, the slats connected at one end to the within-described springs on the transverse bar D, and resting at the opposite end on the transverse bar D', to which it is confined by a pin *y*, all as set forth.

**69,199.**—SMITH FERRIS, New York, N. Y.—*Horse Blinder*.—September 24, 1867.—The blinders to cover the eyes in case of fire are attached by straps and hooks, so as to be readily secured to the horse's head.

*Claim.*—As a new article of manufacture, a fire blinder for horses and cattle, constructed as described, consisting of the cap A, to be placed over the eyes and the space between the eyes, having the elastic strips *a a*, connected by loops *b b*, the metal bars B C, hooks *d d*, and strips *c*, substantially as described for the purpose specified.

**69,200.**—H. W. FISHER, Philadelphia, Pa.—*Cooler and Filterer*.—September 24, 1867.—The upper partition is perforated for the passage of water to the second compartment, from which it passes through a filter pipe to the ice compartment. The ice is contained in a covered drawer, so that the water does not come in contact with it.

*Claim.*—The case A, formed with three compartments *a b c*, and a filtering medium *e*, in combination with the ice chamber F and pipe C E, all arranged substantially in the manner as and for the purpose set forth.

**69,201.**—JAMES FORBES, Plainwell, Mich.—*Mode of Attaching Calks to Horseshoes*.—September 24, 1867.—The detachable calks have beaks on their inner surface that engage in recesses in the shoe, and are further secured by set screws.

*Claim.*—Attaching the calks to horseshoes, by means of the hook or beak *e* and screw *f*, in the manner and for the purpose set forth.

**69,202.**—H. C. FREEMAN, Lewisville, Ind.—*Sawing Machine*.—September 24, 1867.—The wood is cut by the circular saws attached to the shaft of the oscillating frame, while one saw is movable, so as to be adjusted relatively to the other saw, to regulate the length of wood.

*Claim.*—In a wood-sawing machine the semi-circular saws I I, attached to the shaft K in such manner that while one is fixed in position the other may be adjusted according to the length into which the wood is to be cut, arranged to operate substantially as set forth.

Second, so arranging the shaft K and frame L that the semi-circular saws I I may be attached either to the two frame pieces L, one fixed and the other adjustable, or one of them only be attached to the intermediate piece L', and the frame be actuated directly by hand, substantially as and for the purpose set forth.

Third, so arranging the beam Q as to act upon the oscillating frame L, when raised by the rods N, substantially as set forth.

**69,203.**—JEANNETTE GARRISON, New York, N. Y.—*Attachment for Cook Stoves*.—September 24, 1867.—The screen is placed at the throat of the furnace, to arrest the passage of cinders.

*Claim.*—A screen applied to a cook stove at the top of the fire chamber between it and the top flue, substantially as and for the purpose herein set forth.

**69,204.**—F. GEARING, Pittsburg, Pa., assignor to himself and HENRY MILLINGAR, same place.—*Market Box*.—September 24, 1867.—The sides of the box have coinciding eyes, through which a rod is slipped to hold the parts in position.

*Claim.*—A market box, having its sides connected or secured together by means of the eyes *d e*, rods D, and battens *b*, substantially as and for the purpose specified.

**69,205.**—WILLIAM GERMAIN, Rock Bottom, Mass.—*Condensing Tube for Carding Machines*.—September 24, 1867.—The cup-shaped head is attached to the body of the tube by connecting arms, and is cast in one piece therewith.

*Claim.*—A condensing tube, in wool-carding machine, formed with a conoidal or cup-shaped head *e*, substantially in the manner and for the purpose specified.

**69,206.**—JOSEPH GOLDMARK, Brooklyn, N. Y.—*Fulminating Compound*.—September 24, 1867.—The sulpho-cyanite of lead, copper, zinc, or quicksilver, (lead preferably,) two parts, is mixed with chlorate of potash, five parts, and of saltpeter or prussiate of potash, one part, to form a fulminating compound which ignites by percussion or friction, but does not corrode metals or have a deleterious effect upon those compounding or handling it.

*Claim.*—A fulminating compound, in which the sulpho-cyanite of a metal or other base is employed, in combination with chlorate of potash, either with or without other substances, substantially as herein specified.

**69,207.**—C. A. HARPER and JOHN A. PARTRIDGE, Rahway, N. J.—*Seed Dropper*.—September 24, 1867.—The long central tube secures the planter to the hoe handle. The rotating wheel connects with the outlet of the seed cylinder, and has recesses in it for measuring the seed.

*Claim.*—First, the case A, when constructed with an internal cylinder B, and a curved spout C, acting in combination with the oscillating wheel D, to deposit the grain in the hill, substantially as set forth.

Second, the oscillating wheel D, when constructed with a plurality of chambers D<sup>1</sup> D<sup>2</sup>, and so arranged that either chamber may be used, substantially as set forth.

Third, in combination with the wheel D, having a plurality of chambers, the adjustable spring H, eyes F and F', and rods I and I', substantially as set forth.

**69,208.**—C. P. HAWLEY, Mosherville, N. Y.—*Wagon Spring*.—September 24, 1867.—The wooden frames are hinged to lugs projecting from the bottom of the wagon box. The frames nearly meet at their inner ends, and the outer ends are hinged to the re-



spective axles. The inner ends are connected by elastic links.

*Claim.*—First, the arrangement and combination of the frames E E, with the lugs *b*, pins *a*, staples *c*, links *d*, or their respective equivalents, with the spring F, all made and operating substantially as herein shown and described.

Second, the slotted hinged frames E, when so arranged that the bearings will be brought nearer to the axles the heavier the load, as set forth.

**69,209.**—ISAAC D. HAZEN and JONATHAN HITCHCOCK, Grand Rapids, Mich.—*Stump Extractor.*—September 24, 1867.—The stump is made fast by chains to the shaft. The rope is connected with the pulleys and a horse is attached to one end of the rope, while the operator holds on to the other end to pay it out. As the pulleys are rotated the shaft is elevated by the thread upon it, and the stump gradually extracted.

*Claim.*—First, the arrangement of shaft E and collar J', with its pulleys and box, with the rim wheel I and its rollers, ball H, box G, and cord *d*, as and for the purpose set forth.

Second, the arrangement of the frame K, with its pulleys and block and tackle, with the main frame, for canting or removing the stump after it has been pulled, substantially as set forth.

**69,210.**—J. G. HESTER, Raleigh, N. C.—*Burning Fluid.*—September 24, 1867.—Composed of naphtha, 40 galls.; sweet spirits of nitre, 10 oz.; potash, 1½ lbs.; gum camphor, 6 oz.; alum, 6¼ oz.; salt, 2½ lbs.; chloride of lime, 4 oz.; oil of sassafras, 3¼ oz.; sulphur, 3 oz.; charcoal, 2 oz.

*Claim.*—The improved burning fluid, prepared of the materials substantially as herein described.

**69,211.**—GEORGE HOOVER and ARTEMUS N. HADLEY, Richmond, Ind.—*Spinning Machine.*—September 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the adjustable inclined bearing arms G G', for use with roving spools of diverse lengths and diameters, in the described combination with the roving delivery cylinder E and gravitating doffer roller I.

Second, in the described combination the roving delivery cylinder E, the automatically opening and closing clove sash, and the roving delivery belt or cord F, having permanent connection with said cylinder and intermittent connection with said sash, substantially as and for the purposes set forth.

Third, the roving cord clasp S, combined in one sash with the clove, and being closed and opened by the opposite actions of the latter, whereby an amount of roving is automatically delivered, exactly corresponding to that required for the ensuing stretch, whether the same be more or less.

Fourth, the loop or cord clasp S, whose stem *s* is drawn through the friction pad R, and operated by the movable jaw M of the clove, in manner substantially as set forth.

Fifth, the arrangement of vertically guided and balanced clove sash whose movable and self-closing jaw M has a tongue W which, impinging against a tappet X, is made to engage behind a notch *o*, or devices substantially equivalent, in the described combination with an adjustable releasing pin X', for the automatic opening and closure of the clove for any desired length or stretch of roving, as set forth.

Sixth, the provision on a vertically balanced and reciprocating clove sash of the rearwardly and upwardly curved finger T, for retraction of the faller wire, in the manner explained.

Seventh, in the described combination the vibrating faller wire 6, adjustable retracting spring 8, spur 11, spring dent 13, and releasing mechanism 14, 15, 16, whereby said faller wire is automatically operated by the ascent and descent of the clove-sash, in the manner explained.

Eighth, the spiral spring 8 and arm 7\*, applied so as to impart a downward movement to the faller wire and adapted to exert the greatest leverage when the faller wire is in its depressed position, as described.

Ninth, the arrangement of the adjustable driving pulley 1, band Z, spindles Y, whorls *y*, and intermediate pressure pulleys or rollers 5, as and for the purpose herein described.

Tenth, the provision in the plane of the spindles of the driving pulley 4, armed with rundles 32, and journaled at rear in the swiveled bearing 29, and at front in the open bearing 30, for convenient winding off and removal of the hanks, in the manner explained.

**69,212.**—JAMES P. HOWELL, New York, N. Y.—*Hitching Ring.*—September 24, 1867.—The shank is attached with a screw; a lip is protruded on one part of the ring that, when it engages in the eye, holds the ring rigid in an elevated position.

*Claim.*—First, a ring, so constructed and combined with a suitable screw shank that when such shank is placed at one portion of the ring it will be rigidly fixed thereon, and when placed at other portions thereof will permit the said ring to hang loosely, substantially as herein set forth for the purpose specified.

Second, the construction of the ring A, with an enlarged portion *a*, wedge-shaped in its cross section and operating in connection with the eye *b*, of corresponding shape, formed in the head of the screw shank, substantially as herein set forth for the purpose specified.

**69,213.**—HENRY W. HOWLAND, Calhoun, Ill.—*Churn.*—September 24, 1867.—The obliquely-perforated dasher rotates in the contrary direction to the churn. The valves allow the ingress of air to the cream. The crank shaft and belts impart motion to the dasher and churn.

*Claim.*—First, the holes *h*, flaring caps *h*<sup>1</sup>, valves or slides *h*<sup>2</sup>, and discharge pipe *h*<sup>4</sup>, in combination with a rotating churn, substantially as and for the purpose set forth.

Second, the dasher L, constructed with oblique perforations *l* and double oblique serrated periphery *l*<sup>1</sup>, in combination with the revolving vessel H, substantially as and for the purpose specified.

Third, the arrangement of the upright shafts B F I, crank wheel C, pulleys D F<sup>1</sup> J, belts or bands E K, and vessel H, substantially as described.

Fourth, the dovetailed slide *h*<sup>5</sup>, in combination with the dovetailed slitted lid H<sup>1</sup> and vessel H, substantially as and for the purpose set forth.

**69,214.**—JOSEPH C. HUGHES, Robinson, Ill.—*Portable Fence.*—September 24, 1867.—The feet of the uprights are engaged in rectangular notches of the lower bar, and their upper portions with the apex of a triangular frame.

*Claim.*—The combination of the straight panels B, and triangular supporting frame A, when respectively constructed substantially as set forth, with the combination of the corner panels D, and supporting frame C, when respectively constructed substantially as set forth.

**69,215.**—GEORGE G. HUNT, Bridgeport, Conn.—*Steam Generator.*—September 24, 1867.—The generator has a segmental series of vertical tubes. The annular water space surrounding the fire box has tubular stay bolts. The caloric current ascends to the crown plate and is reverberated to escape by the tubes.

*Claim.*—First, the reverberating chamber R, and ascending flues T, within the water space of a steam boiler, when said chamber and pipes communicate directly with the fire chamber A, and are so arranged as to cause the gases which accumulate above the coal in said chamber R to descend and pass through or over the ineandescant coal below pipes T, substantially as described.

Second, the arrangement of the reverberating chamber R, and ascending flues T, directly over a grate surface G, which extends beneath the said chamber and flues, and allows of a direct upward draft through it at points below the lower ends of the flues, substantially as described.

Third, the gas reverberating chamber R, arranged within the water space in combination with a fire chamber A and the flues T, arranged so as to effect the combustion of the gases, which are caused to escape from chamber R, at points below the level of the coal in this latter chamber, substantially as described.

**69,216.**—S. W. HUNTINGTON, Augusta, Me.—*Vest.*—September 24, 1867.—The elasticity of the goring attached to each side of the vest enables the garment to conform to the shape of the wearer.



*Claim.*—A vest provided on one or both sides with an elastic goring or strip which partially encircles or surrounds the armholes of said vest, substantially as and for the purpose set forth.

**69,217.**—JAMES J. JOHNSTON, Allegheny City, Pa., assignor to THE PEOPLE'S BRICK MACHINE COMPANY, Pittsburg, Pa.—*Brick Dryer*.—September 24, 1867.—The flues, conducting pipes, and suction fans of the dry house are so arranged in relation to each other that pure air is drawn into and heated in its passage through the pipes and forced into the dry house by the fan. The off-bearing cars are arranged to allow ventilation between them for the drying of the bricks.

*Claim.*—First, the conformed dry house, in combination with the car, (when viewed in cross section,) provided with flues connected with the boiler furnace and its stack, substantially as herein described and set forth.

Second, the car or truck for bearing off the brick, when constructed as herein described and represented and used for the purpose set forth.

Third, the combination of the pipes *h i m* and *n*, with boiler furnace and the flues *f g*, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

Fourth, the use of a fan in combination with the pipes *h i m* and *n*, for forcing heated air into and through the dry house, in the manner and for the purpose set forth.

**69,218.**—R. J. JORDAN, Elkhart, Ind., assignor to himself and E. DARLING, same place.—*Boiler Water Regulator*.—September 24, 1867.—The float is contained in a frusto-conical water chamber communicating with the boiler, and acts immediately upon a rotary valve in the supply pipe.

*Claim.*—First, the arrangement of the reservoir B, float C, rod *a*, valve *g*, levers *d h*, with reference to the steam generator, substantially as shown and described.

Second, the combination of the reservoir B with the turret K and wire coil, substantially as described.

**69,219.**—WILLIAM C. JOSLIN, West Thompson, Conn.—*Machine for Reducing Roller Leather to a Uniform Thickness*.—September 24, 1867.—Motion being communicated to the rolls and reducing cylinder, the material is fed through under the cylinder and reduced to the right thickness. The bed is adjusted by set screws to the thickness of the material required.

*Claim.*—First, the combination in a machine for reducing calf skins, sheep skins, and lamb skins to a uniform thickness, the reducing cylinder D, receiving and delivering rolls B B C C, and adjustable bed F, substantially as and for the purposes set forth.

Second, a machine for stretching and reducing leather to a uniform thickness, the parts of which are constructed and arranged for joint operation as and for the purpose herein set forth.

**69,220.**—MAURICE JOYCE, Washington, D. C.—*Boat Lowering and Detaching Apparatus*.—September 24, 1867.—The boat may be hoisted or lowered by screw gearing in reach of the boat's crew. Pivoted divaricated catches have links connected to the ends of the boat. The forked ends of the catches are held up by a longitudinal shaft, whose partial rotation frees the said ends by allowing their passage through the notches of the shaft and releases the links.

*Claim.*—First, the combination of frames *b b*, spools or windlasses *d*, shaft *e*, frame G, wheels H and I, or their equivalents, and worm *i*, arranged, constructed, and operating in the manner substantially as shown and described and for the purpose set forth.

Second, the combination of brake *n*, wheels I and H, shaft *e*, worm *i*, and cam lever *l*, arranged, constructed, and operating in the manner substantially as shown and described and for the purpose set forth.

Third, the combination of frames *b*, having the ears *e c*, with shaft *f*, and bifurcated arms D D, arranged, constructed, and operating in the manner substantially as shown and described and for the purpose set forth.

**69,221.**—DANIEL KIDDER, Franklin, N. H.—*Spring Fishhook*.—September 24, 1867.—The spring

hooks are loosely clasped together so that when drawn by the fish they slide through the clasp and expand.

*Claim.*—The fishhook constructed as described, consisting of the single piece of wire B, bent at its centre to form the eye D, sliding upon the stem G, its bent shanks E, provided at each end with the hooks C, crossing each other and held in position by means of the clasp F upon the end of the stem G, all operating as herein set forth for the purpose specified.

**69,222.**—BLANCHARD V. KIRK, Philadelphia, Pa., assignor to himself and H. A. MUSSELMAN, same place.—*Skirt Elevator*.—September 24, 1867; antedated September 11, 1867.—The rubber waist ring is covered with a woven fabric, and is secured by metallic clasps. The elevators are adjusted to eyelets in the band.

*Claim.*—The combination of the india-rubber tube A, covered with a woven fabric *m*, provided with tubular clasps C C' having openings *h h*, through which pass the cords K, the whole constructed and operating substantially as described.

**69,223.**—LE GRAND KNIFFEN, Worcester, Mass.—*Refrigerator Car*.—September 24, 1867.—Explained by the claim and illustration.

*Claim.*—First, a refrigerator car, constructed substantially in the manner described, for the purpose of transporting meats and other perishable articles.

Second, lining an ordinary box car with fibrous or textile non-conducting material, for the purpose set forth.

Third, converting an ordinary freight car into a refrigerator by lining it with successive sheets or layers of thick paper, substantially in the manner described.

Fourth, the combination, substantially in the manner described, with a box car of removable sections or linings of non-conducting material, whereby I can in a few moments convert from an ordinary car into a refrigerator.

Fifth, lining a box car with elastic non-conducting material which will yield to the working of the car or even allow it to be broken without rupturing the non-conducting envelope.

Sixth, the arrangement in a refrigerator car of both the articles to be kept cool and the ice, or refrigerating apparatus inside the non-conducting envelope, whereby the refrigerating apparatus is protected from the external heat without additional protection.

Seventh, the arrangement as described of the hinged door in the lining with the sliding door of the car, whereby direct access can be had to the refrigerating chamber.

Eighth, the arrangement as described of removable ice racks with the lining sections nearest the doors, or those in which the doors are placed, whereby the ice is placed in the last, and is thus more convenient of access and space economized.

Ninth, in combination with a refrigerator car, a removable ice rack, which can be taken out when not required, and its room occupied by other things.

Tenth, the arrangement in a refrigerator car of a refrigerating apparatus to produce cold without using ice, when desired.

Eleventh, the arrangement within a refrigerator car of quicklime or other absorbent of moisture, to maintain a dry as well as a cold atmosphere.

Twelfth, the arrangement as described of the removable side props and top beams, whereby the sections are held in place and the distance between the beams can be varied to suit carcasses of different sizes.

Thirteenth, the arrangement as described on the top or cross beams of the sliding swiveling hooks, whereby the spaces between the hooks can be varied and the carcasses conveniently swung.

**69,224.**—CHARLES KREBS, Chicopee, Mass.—*Adjustable Railing for Vehicles*.—September 24, 1867.—The double hooks engage the notched plates on the ends of the seat, and the straps behind are secured in the sockets by the pivoted latches.

*Claim.*—An adjustable railing for the seats of vehicles, which is attached by means of the notched pieces *a a* and *b b* on the rail, and the pieces *f f*, having the latches *i i* upon the seat, the parts being arranged substantially as and for the purpose described.



**69,225.**—B. P. LAMISON, Milton, Pa.—*Axle Box*.—September 24, 1867.—The one end of the elliptic cap is permanently screwed into the box car, and turns upon the bolt. The other end, which is fastened by a clamp attached thereto, is left free to shut or open, as required.

*Claim.*—The car axle box lid A, provided with the clamp b, in combination with the car d, applied to the car axle box.

**69,226.**—B. P. LAMISON and S. W. MURRAY, Milton, Pa.—*Brake Block and Shoe for Railroads*.—September 24, 1867.—The shoe has a T-shaped lug, which slips into a suitable groove in the brake block, the flanges of the T head catching behind shoulders in the block; the lower end of the shoe engages a hook.

*Claim.*—First, the brake shoe E, provided with circular lug A with flanges o o, in combination with the shoe D with its opening B, of construction corresponding to the lug, the shoe and block being arranged to turn and to be held in place by pin f, as and for the purpose set forth.

Second, the lug A', with its flanges o' o', in combination with the block D' and pin K, all constructed and operating as described and for the purpose set forth.

**69,227.**—O. LAPHAM, El Paso, Ill.—*Wagon Tongue Support*.—September 24, 1867.—A spring is attached to the rear of the tongue and engages with the transverse spring that connects the hounds, to relieve the horses of the weight of the tongue.

*Claim.*—The combination of the spring E with the rear end of the tongue D, and with the hounds C, substantially as herein shown and described and for the purpose set forth.

**69,228.**—HERRMANN LIEBMANN, Mascontah, Ill.—*Vegetable Slicer*.—September 24, 1867.—The varied actions of the lateral and vertical knives combined with the rotating disk subdivide the vegetables into filaments.

*Claim.*—A vegetable slicer, having fixed lateral knives and vertical knives that may be removed attached to a revolving horizontal disk, when constructed and arranged substantially as shown and specified.

**69,229.**—WILLIAM MANNHEIM, New York, N. Y.—*Machine for Tapering Leather*.—September 24, 1867.—The cutter is hinged at one end to a stationary frame, and is vertically adjustable at the other end. The axis of the friction roller connected with the vertically-adjustable frame is directly under the cutting edge of the knife. The roller is supported on a sliding frame that gradually raises towards the knife, for tapering the ends of leather belts.

*Claim.*—First, a machine in which leather straps can be shaved or beveled or their ends tapered, which is arranged so as to be adapted to every width and thickness of leather, and which will operate substantially in the manner herein shown and described.

Second, the jointed and hinged knife or cutter C, when arranged on the stationary frame so as to be adjusted in position by the screw D, substantially as and for the purpose herein shown and described.

Third, the removable rod I, when provided with the adjustable sliding block J, in combination with the roller G and cutter C, all made and operating substantially as herein shown and described.

Fourth, the sliding frame L, when provided with a handle p, in combination with the frame r, set screws s, frames E and F, roller G, and cutter S, all made and operating substantially as herein shown and described.

Fifth, the hinged, jointed cutter C, in combination with the roller G, all made and operating substantially as set forth.

**69,230.**—E. J. MANVILLE, Waterbury, Conn., and E. M. JUDD, Wolcottville, Conn.—*Machine for Capping Screw Heads*.—September 24, 1867.—The die-holding disk receives the screws and carries them round successively beneath the cutter; it is actuated by the ratchet wheel, whose teeth correspond in number to the dies on the disk. The screw driver descending and slightly rotating places the notch in the

head of the screw in position to correspond with the cutter towards which it is moving.

*Claim.*—First, the combination of a series of progressively-moving dies for holding the screw, dies for pressing a cap of sheet metal over the head, and mechanism for nicking the sheet metal cap to correspond with the previously-cut nick in the screw head, all constructed and operating substantially as set forth.

Second, the combination of mechanism, substantially as specified, for effecting the following successive operations, viz: first, placing the nicked screw head in the proper position; second, holding the same; third, pressing a sheet metal cap upon the head; fourth, nicking the sheet metal cap in a position to correspond with the previously-nicked head.

**69,231.**—C. K. MARSHALL, Vicksburg, Miss.—*Window Blind*.—September 24, 1867.—The metallic slats are pivoted in the hollow metallic frame. Wooden filling secures the attachment of screws of the hinges.

*Claim.*—First, as a new article of manufacture, window blinds, formed of slats of metal set in a metallic frame, in manner and for the purposes substantially as described.

Second, the hollow metal frame A, having the wooden blocks C to receive the screws d securing the hinges D, in manner and for the purposes substantially as herein shown and described.

**69,232.**—JOSEPH McCONNELL, Iowa City, Iowa.—*Valve for Steam Engines*.—September 24, 1867.—The ports of the cylinder are governed by inner and outer valves at each end of the cylinder. The inner valves are variable cut-offs and are controlled by the governor, whose movements depend upon the speed of the engine.

*Claim.*—First, the combination and arrangement of the arm u, secured to the end of the rock shaft T, between the cylinders H, and in the slots of which the wrist pins x work, connecting the arm u to the valves p, the position of said pins x in the slots being controlled by means of the governor, whereby the throw of the valves p is regulated, as herein shown and described.

Second, the valves p, constructed as described, formed in a semicircle, with the pressure of steam applied upon one side, as and for the purpose specified.

Third, the arrangement of the cylinders H, main valves and cut-off valves p, transverse shaft T, slotted arm u, connecting arms v, and cranks s, as and for the purpose specified.

**69,233.**—JOSEPH R. McGUIRE, Warren, Ohio.—*Carriage Circle*.—September 24, 1867.—The dowel pin engages in the corresponding groove on the upper side of the lower sections of the circle, and obviates the necessity of piercing the axle for a heavy king-bolt. The reach is stayed on its under side by lugs that embrace the circle.

*Claim.*—First, the dowel pin D and groove F, when constructed and arranged in relation to each other, in the manner and for the purpose substantially as described.

Second, section C, when constructed with clips H, in combination with section B, constructed with clips J O, in the manner as and for the purpose substantially as set forth.

Third, the reach M, when constructed with stays N, in combination with the cross rail I and king bolt L, when constructed and arranged in the manner and for the purpose set forth.

**69,234.**—JAMES W. MCKEE, Brooklyn, N. Y.—*Strap for School Books*.—September 20, 1867.—The two longitudinally-adjustable side pieces are connected by straps. A carrying cord is attached to the rings on the side pieces.

*Claim.*—First, two longitudinally-adjustable side pieces A, in combination with the straps B, substantially as and for the purpose herein set forth.

Second, the combination of the suspending cord C, with the longitudinally-adjustable side pieces A, and straps B, substantially as and for the purpose herein set forth.

Third, the stems e, in combination with the slotted lips d of the side pieces A, and the straps B, substantially as and for the purpose herein set forth.



Fourth, the supplemental knobs *a\**, in combination with the longitudinally-adjustable side pieces *A*, and the straps *B*, substantially as and for the purpose herein set forth.

**69,235.**—WILLIAM A. MESSLER, Eureka, Ill.—*Door Holder*.—September 24, 1867.—The latch gives way to the catch of the lock, and then springing into engagement with it, holds the door.

*Claim.*—The catch *B*, constructed substantially as described, attached to a wall or other suitable place, in combination with the lock *A* on door *D*, in manner and for the purposes herein set forth and described.

**69,236.**—G. M. MILLER and H. MUND, Chicago, Ill.—*Burglar Window and Door Grate*.—September 24, 1867.—The vertical bar on one side of the grate engages with jaws on the casing. A lock with the attached latch secures it on the other side.

*Claim.*—In combination with the window or door, the grate *A*, plates *F F*, lock *E*, latch *D*, the whole arranged substantially as and for the purpose set forth.

**69,237.**—WYATT W. MILLER, Safe Harbor, Pa.—*Fagot for Beams*.—September 24, 1867.—The pile of bars approximating to the shape of the intended beam are secured by the hook-headed bolts or rivets. The pile is then heated in the furnace and rolled into a beam.

*Claim.*—The pile constructed as described and shown, consisting of the bars *a* having flanges *b*, bars *d* having flanges *d'*, hooked bolts *e*, and the flat bars *c*, as and for the purpose specified.

**69,238.**—J. D. NIETSCKE, Somerset, Ohio.—*Coffin*.—September 24, 1867.—The joints are all sealed with wax, and enclosed inside by strips of wood. The pipes lead through the lid and are tightly jointed to it by collars that screw to the lid above and below. The gas is inserted through the pipes, after which it is hermetically sealed.

*Claim.*—The apparatus for filling the coffin with gas, consisting of the tube *G* having the perforations *k*, in combination with the tube *I* having the perforations *l*, and with the collars *h h'*, and the cap *O*, substantially as and for the purpose specified.

**69,239.**—HENRY W. OSTROM, Grand Rapids, Mich.—*Harrow Cultivator*.—September 24, 1867.—The teeth are secured to the rear ends of the bars that are hung upon a frame supported by wheels in front. The teeth rise and fall with the inequalities of the ground and are adjusted by the levers above.

*Claim.*—The combination of the frame *A* mounted on guide wheels *B B*, the bars *a a* suspended on the cross-rod *b*, the movable cross-bar *d*, and the cross-bar *m*, attached to the handles *k k*, arranged and operating as and for the purpose herein described.

**69,240.**—I. N. PADDOCK, Oswego, N. Y.—*Dish and Vegetable Washer*.—September 24, 1867.—One end of the cylinder is journaled on a hinged bar. The lid is hinged to the side. The winch is fixed to the head, and rests in a journal socket of the standard. A network surrounds the inner concave side of the cylinder.

*Claim.*—First, the dish and vegetable washer consisting of the tub or cylinder *A*, and elastic grating *E* fixed therein, journaled in appropriate bearings, and operated in manner and for the purposes substantially as described.

Second, the hinged plate *D*, in combination with the standard *B*, tub or cylinder *A*, in manner substantially as and for the purposes above set forth and described.

Third, the spur lever *F* engaging in and in combination with the hook *f* and a lid or door *A'*, in manner substantially as herein shown and described.

**69,241.**—GEORGE PALMER, Littlestown, Pa.—*Joint and Railroad Rails*.—September 24, 1867.—The ends of the rails are beveled off to receive an inclined plate of steel. The plate is secured by bolts perpendicular to the inclined face, and in elongated holes to allow extension by heat.

*Claim.*—The connecting bar *H*, constructed as described, with the bottom of the recesses *m m* par-

allel to the inclined faces of the connecting bar, in combination with the rails and diagonal bolts *b b*, when the bolts are at right angles to such inclined faces, as herein described, for the purposes set forth. In combination with the above, the chair *B* provided with a slotted base, as and for the purposes specified.

**69,242.**—CALVIN PEPPER, Norfolk, Va., assignor to SIDNEY SMITH.—*Coal Stove*.—September 24, 1867.—The perforated top plate admits air to the finely-perforated diaphragm to facilitate the combustion of gases evolved from the coal in the stove.

*Claim.*—The use of the finely-perforated diaphragm *D*, placed at a distance above and covering the fire, substantially as shown and described, for the purpose and effect set forth. As a new article of manufacture a cap or cover for a heating stove, constructed with a diaphragm *D*, to be applied to stoves already constructed and in use.

**69,243.**—STUART PERRY, Newport, N. Y.—*Chain Wheel for Chain Horse Power*.—September 24, 1867.—The chain wheel is cast in two parts, each having a series of radial recesses to receive the loose cogs that move inside the rim of the wheel to accommodate themselves to the irregular links. The cogs are set against elastic rubber backing.

*Claim.*—A chain wheel having sliding or yielding cogs or teeth, so that a chain made up of links of unequal lengths can be run thereon, and some of the links always find a tooth or cog that will receive and hold them, and those not so receiving and holding are moved out of the way, as and for the purpose substantially as described.

**69,244.**—D. J. POWERS, Madison, Wis., and HENRY B. STEVENS, Buffalo, N. Y., assignors to THE BUFFALO AGRICULTURAL MACHINE WORKS.—*Sugar Cane Mill*.—September 24, 1867.—The driving wheel is hung under a bridge tree that is secured to the housings of the mill, outside of and immediately over the wheel. The bridge tree has bearings that receive the driving shaft that extends up through it, and has the driving wheel attached at its lower end, and the sweeps secured to it above the bearing. The sweep socket rests and rides upon the bearings of the bridge tree.

*Claim.*—First, locating the driving wheel *A* beneath the bridge tree *L*, and between the housings or side frames *M M*, substantially as and for the purpose herein specified.

Second, in combination with the location of the driving wheel under the bridge tree as above, the location of the pinion *B*, outside of the housing or side frame *M*, for the purpose set forth.

Third, the arrangement of the wedges *T T* and saddle pieces *U U* for adjusting the springs *Q Q*, and bearings or journal boxes *R R* of the lower or minor rollers, substantially as herein set forth.

Fourth, the scraper or turn plate *V*, constructed and arranged so as to self-adjust itself to the position or positions of the lower feed roller *H*, substantially as herein specified.

**69,245.**—JULIUS A. PRESTON, New Haven, Conn.—*Coal Barge*.—September 24, 1867.—The false bottom inclines to the wells in which the water is collected, and from which it can be pumped. In unloading the barge, the well cover being removed, buckets below receive the coal.

*Claim.*—First, the combination in a coal barge or other similar vessel with a freight receptacle or compartment having an inclined or sloping bottom, as described, of a well, and suitable means for opening and closing the same, substantially as and for the purposes herein set forth.

Second, the combination in a compartment as described of the well or opening, with its surrounding frame and valves or gates for regulating the flow of coal or other freight into the said well, substantially as herein shown and specified.

Third, the combination with the freight compartment or receptacle, and its inclined bottom of one or more channels for drawing off the water of said compartment, substantially as herein set forth.

Fourth, a barge for transporting coal and other freight, in which the compartment for receiving such freight is combined with the body or hull of the barge,



substantially as herein shown and for the purposes set forth.

**69,246.**—J. H. QUACKENBUSH, East Saginaw, Mich.—*Washing Machine*.—September 24, 1867.—The clothes are simultaneously subjected to a rubbing and squeezing motion by the corrugated, rotating, and longitudinally moving rollers.

*Claim.*—First, the roller E, having a longitudinal motion, substantially as described, in combination with rollers or other moving portion of a washing machine, for the purposes set forth.

Second, the rollers D D, operated substantially as described, in combination with the roller E.

**69,247.**—J. B. RAINS and W. S. OWEN, Oskaloosa, Iowa.—*Tuyere*.—September 21, 1867.—The part of the tuyere beneath the fire has an annular water chamber. An oscillating plate at the bottom allows the escape of cinders. The air pipe has a damper.

*Claim.*—The combination and arrangement of the box, provided with the tube as constructed with water space around it, chamber A, bottom slide H and damper D, when formed in the manner herein set forth and for the purposes specified.

**69,248.**—FRANKLIN RANSOM, Buffalo, N. Y.—*Churn Dasher*.—September 24, 1867.—The lower dashers are intended to form a partial vacuum to draw air down through the tubular dasher rod.

*Claim.*—First, forming the dasher with a series of wings in the form of spouts or troughs with the sides converging outward, in the manner and for the purpose set forth, said wings being capable of standing in different angles, as described.

Second, the combination and arrangement with wings thus formed of the tubular rod with the outlets *ff*, opening directly in the rear of wings, as herein set forth.

**69,249.**—J. WYATT REID, New York, N. Y.—*Manufacture of Sugar*.—September 24, 1867.—The sirup is placed in the receiver, which has a water jacket, and is agitated by stirrers on a rotating shaft.

*Claim.*—First, the process substantially as herein described of effecting the crystallization of sugar by subjecting it to the action of beaters or stirrers within a receiver having a stream or streams of cold water or air made to play on or around it, and between it and an outer jacket, or its equivalent, substantially as and for the purpose or purposes specified.

Second, the combination with a sugar-mixing apparatus, consisting of a receiver A, stirrers B and jacket E of the cold air or water pipe F, arranged below and upper opposite discharge pipes G, both connecting with the interior of the jacket, substantially as herein set forth.

**69,250.**—ANDREW J. REYNOLDS, Sturgis, Mich.—*Pump*.—September 24, 1867.—The cylinder is hung on trunnions. The piston is hollow, and the piston rod is tubular, and communicates with the piston chamber. The water enters alternately through each end of the cylinder, and enters the piston to pass up the piston rod to the exit nozzle at its top.

*Claim.*—First, the arrangement in a hollow piston of the valve O and guide pin N, as and for the purpose set forth.

Second, the construction of the upper cylinder head with the induction port *e* and valve seat G *g g'*, as and for the purpose specified.

Third, the arrangement in a submerged pump of the ports *b e* M, valves F I O and hollow piston and rod L K, as herein described and represented.

**69,251.**—UEL REYNOLDS, New York, N. Y.—*Attaching Yokes to Poles for Carriages*.—September 24, 1867.—The neck yoke is secured in a ring at the upper side of the tongue socket.

*Claim.*—The eye *e* and notch *d* upon the socket *b*, in combination with the yoke *f* and stop horns *h* and *i*, substantially as and for the purposes set forth.

**69,252.**—A. RULLMANN, New York, N. Y.—*Medical Compound*.—September 24, 1867.—A stomachic and anti-spasmodic, composed of orange peel, cloves, cinnamon, Peruvian balsam, spirits of wine and ether.

*Claim.*—The medical compound herein described,

made of the ingredients and in the proportions herein specified.

**69,253.**—CHARLES SAFFRAY, New York, N. Y.—*Apparatus for Burning Crude Petroleum*.—September 24, 1867.—The petroleum passes through a pipe beneath the furnace to its position in the hollow grate bars, and the steam and water pass through the fire space in two concentric tubes. The petroleum is actuated by gravity, the steam by pressure in the boiler, and the air by a fan blower. A reservoir furnishes a store of condensed air for use when the machinery is not operating.

*Claim.*—First, the use of hollow grate bars divided in three superposed compartments, the middle compartment containing petroleum and the two others receiving, by means of the arrangement of stop cocks above described, either steam alone or hot air alone, or a mixture of both, said grate bars being perforated as represented in the drawing, so as to allow either steam alone or hot air alone, or a mixture of both, to escape inside or outside of the flame.

Second, the use of the safety pipe above described.

**69,254.**—M. SCHALL, New York, N. Y.—*Candle Holder*.—September 24, 1867.—The candle-holding socket has a spike by which it is secured in a limb of the Christmas tree or other object.

*Claim.*—The combination with the socket B or its equivalent of a sharp pointed needle or pin, substantially as and for the purpose described.

**69,255.**—JOHN SCHRÖDER, Kickapoo, Ill.—*Cultivator*.—September 24, 1867.—The plow beams are pivoted to, and the draft rods are hinged to the perforated, adjustable pendent bars by which the draft is lowered and regulated.

*Claim.*—First, the manner herein shown and described of securing the plow beams to the frame A, by means of pendants G and a movable cross bar F, the latter being pivoted to the tongue D, substantially as set forth.

Second, the above in combination with the swinging draft bars N, made as described.

**69,256.**—ADAM SCHWEBEL, New Haven, Conn.—*Nut Machine*.—September 24, 1867.—The bar of iron from which the nuts are formed is supported on a rest; on each side of the center bar are movable die-holders, the dies in which alternately form dies and punches. The series of operations cannot be briefly described.

*Claim.*—First, the combination of the two series of cutting dies *c c*, with the moving frames D D, when arranged and made to operate as described.

Second, the combination of the two series of cutting dies, the series of punches, and the semi-rotating shafts arranged as described, with any suitable means for rotating said shafts, in the manner and for the purposes set forth.

Third, the combination of the sliding frame D, semi-rotating shaft E, and series of punches, arranged and operating substantially as described.

Fourth, the combination of the series of punches *d d*, with the series of spindles *f f*, and means substantially as herein described for transferring the nuts from the punches to the spindles.

Fifth, the combination of the crowning die plate F, made as described, with recesses in its upper edges for the reception of the punches for the sliding frame K, and spindles *f f*, substantially as set forth.

Sixth, the combination of the rock shaft V and frame *y y*, with the rest *a*, and means for causing said frame *y y* to descend and hold the bar from which the nuts are to be cut, substantially as described.

Seventh, the combination of the oscillating and vertically sliding plates R R', operated substantially as described with the series of spindles *f f*, as and for the purposes set forth.

Eighth, the combination of the cam rock shaft converting bar *u*, loose cams *w w*, pulleys *v v*, and chains V V, or cords, with the semi-rotating shafts E E, for operating the same alternately right and left, in the manner herein described for the purposes specified.

**69,257.**—E. U. SCOVILLE, Manlius, N. Y., and L. SCOVILLE, West Bloomfield, N. Y.—*Hoisting Apparatus*.—September 24, 1867.—The object is to raise a load, convey it to the required spot, lower it and



return the hoisting mechanism to the first position. The devices are explained in the claims and illustration.

*Claim.*—First, the frame *b* attached to the platform *a*, so that it can be turned around, in combination with the legs *c* *e*<sup>1</sup>, and beam *g*, sustaining the hoisting apparatus, substantially as set forth.

Second, the hook *m* and rope or chain *h*, in combination with the pulley *h*<sup>1</sup> and rope *n*, as and for the purposes set forth.

Third, the latch *n*<sup>1</sup> applied to the rope *n*, in combination with the notches *7* of the pulley *h*<sup>1</sup> and the disengaging levers *o*, as and for the purposes set forth.

Fourth, the disengaging frame *o*<sup>1</sup> attached to the rope *h*, in combination with the levers *o* and pulleys *h*<sup>1</sup>, for the purposes and as specified.

Fifth, the barrel *r*, clutch and shaft *10*, in combination with the beam or lever *t* and inclines *t*<sup>1</sup>, as and for the purposes set forth.

Sixth, the lever *w* upon the beam *t*, in combination with the link fulcrum *w*<sup>1</sup> and stationary ring *t*<sup>2</sup> to operate the brake to the barrel *r*, as and for the purposes set forth.

**69,258.**—JOSEPH SECHRIST, Connellsville, Pa.—*Corn Husker*.—September 24, 1867.—The thimbles attached to the fingers of the glove have claws to assist in tearing the husk.

*Claim.*—The combination of the gloves *A* and tubular claws *B* for husking corn, arranged to operate substantially as set forth.

**69,259.**—H. SEEHAUSEN, Memphis, Tenn.—*Tuning Attachment for Guitars*.—September 24, 1867.—The ordinary tuning mechanism is in a frame which is movable by a screw to slacken all the strings at once and strain them again.

*Claim.*—The ordinary tuning mechanism of a guitar, banjo, or other similar string instrument, in an adjustable frame *B* fitted in the head of the instrument, and all arranged substantially in the manner as and for the purpose set forth.

**69,260.**—CHARLES A. SEELY, New York, N. Y.—*Impregnating Wood with Oleaginous and Saline Matters*.—September 24, 1867.—The wood is treated successively in a bath of heated liquid (say carbolic acid) raised above the boiling point of water, and then in an impregnating liquid below the boiling point of water.

*Claim.*—First, the process of impregnating wood, substantially as described.

Second, the use, in conjunction, of the hot and cold baths, for the purpose described.

**69,261.**—HENRY F. SEHNDERS, Buffalo, N. Y., assignor to himself and BARBORA WACKERMAN, same place.—*Washing Machine*.—September 24, 1867.—The movable rubber is operated by the crank and pitman and reciprocates upon the stationary corrugated board. The feed rollers are operated by a double pawl and feed the garments in either direction. Soap suds are continuously supplied by a flexible pipe from a reservoir during the operation.

*Claim.*—First, the combination of the reciprocating rubber *C*, stationary board *B*, springs *c*, with the connecting rod *I*, rock shaft and arm *J* *b*, arranged and operated substantially in the manner and for the purpose set forth.

Second, the receptacle *s* provided with stop cock *q*, and flexible pipe *p*, in combination with rubber *C*, substantially as and for the purpose described.

Third, the feed rollers *D* *E*, in combination with the ratchet wheel *k*, double acting pawl *m*, arm *l*, and pitman *n*, operating in the manner and for the purpose set forth.

Fourth, the cams *K* *K*, connected by rod *f*, in combination with the hook *i*, spiral springs *c*, and rubber *C*, for elevating the latter, arranged and operating substantially as specified.

**69,262.**—WALTER S. SHOTWELL, Paterson, N. J.—*Car Brake*.—September 24, 1867.—When the steam is cut off the draw heads are forced inward, their shoulders forcing against the rods that actuate the levers which apply the brakes.

*Claim.*—First, the combination and arrangement of the rods *E* *E'*, levers *F*, spring rods *H*, arms *d* and

*g*, rods *h*, cranks *i*, shaft *I*, arm *j*, and cords *J*, substantially as described for the purpose specified.

Second, the rods *H*, in combination with the cords *J*, connected with the bell rope *O*, the shafts *I*, shafts *e*, having arms *d* attached on which the rods *H* rest, all arranged substantially as shown and described.

Third, in combination with the brake herein described, the bars *L* and lever *M*, substantially as and for the purpose specified.

**69,263.**—JOHN B. SLAWSON, New Orleans, La.—*Car and Omnibus Fare Box*.—September 24, 1867.—Alongside the fare box is a lamp chamber with a reflector for directing the light onto the table which temporarily receives money until it is dumped by the driver.

*Claim.*—First, the apartment *E*, when provided with an opening for the passage of light toward the fare box, and with a reflector *I* on the opposite wall, the lamp *II* being arranged between, substantially as described.

Second, providing the apartment *E* with openings *F* and *G* for allowing the passage of light towards the fare box and towards the front or rear, substantially as and for the purpose herein shown and described.

**69,264.**—D. A. SMITH, Pomeroy, Ohio.—*Straw Cutter*.—September 24, 1867.—The cutter wheel and feed roller have simultaneous motion by cog gearing.

*Claim.*—The wheel *C* provided with the knives or cutters *D*, in combination with the feed roller *J*, fitted within sliding uprights *I* *I* in the feed box *A* and operated from the cutter-wheel shaft *B* through the medium of the gearing *E*, *F*, *e*, *G*, and *K*, all arranged substantially in the manner as and for the purpose set forth.

**69,265.**—LEVI S. SMITH, Gorsuch's Mills, Md., assignor to himself and JOSEPH V. WINEMILLER, same place.—*Peg Cutter*.—September 24, 1867.—Explained by the claims and illustration.

*Claim.*—Making the cutting teeth of a peg cutter on two or more plates, to permit of filing or sharpening the teeth when made at different angles on the different plates, substantially as described.

Also, the lugs on the plates, in combination with the plate, constructed and arranged substantially as described.

Also, making the floats or cutting edges to incline backward from the sides towards the center, so as to cut the pegs with a drawing cut and crowd the cutter towards the side of the shoe.

**69,266.**—SETH H. SMITH, Venice Center, N. Y.—*Car Coupling*.—September 24, 1867.—The tumbler is pivoted on the crank bar and is tripped by the entering link, which it then engages. Weights pivoted to the same bar rest on the link and maintain it in horizontal position ready for coupling.

*Claim.*—The lock piece *C*, the weight pieces *F* *F*, and the crank shaft *D*, arranged and combined substantially as described, in combination with the link *B* and the draw head of a railroad car, for the purposes set forth.

**69,267.**—D. SPOONER, Lowell, Ohio.—*Extinguishing Fire in Steamships*.—September 24, 1867.—The steam generator has a pipe descending to, and rebent at, the bottom of the hold, from which it passes upward, and has cocks communicating with each space between decks. The water is received through a vertical pipe communicating with the *U* bend, and is forced by the steam to issue from either cock desired.

*Claim.*—The steam fire extinguisher above described, consisting of the pipe *A* having several outlet cocks *d* *e* *f* *g*, the steam drum *C*, the throttle valve *II*, and the short pipe *B*, when used for the purpose and constructed in the manner specified.

**69,268.**—WILLIAM H. SQUIRES, New York, N. Y.—*Steam-Generator Blower*.—September 24, 1867.—The draft is increased by a steam jet within a truncated-conical nozzle in the smoke box.

*Claim.*—The arrangement of the boiler *A*, furnace *B*, chamber *C*, steam pipe *D*, stop cock *G*, and conical chamber *E*, as herein set forth, for the purpose specified.

**69,269.**—IRA STANBERRY, St. Louis, Mo.—*Safety Rein*.—September 24, 1867.—The safety reins are at-



tached to the full, overhead, check rein, and pass through the elevated terret, over the back band, and through keepers that loosely unite them to the driving reins, the loops of the safety reins hanging in reach of the driver's hands.

*Claim.*—First, the attaching of safety reins to the Kimball Jackson overhead check or any other check back of the top of the horse's head and forward of the water hook, as represented, for the use and purpose as herein specified and set forth.

Second, the passing of the lines or safety reins, as attached, through the elevated terret or dee on the double harness and through the subdivisions of the terrets or dees on the single harness, for the use and purpose as specified and herein set forth.

Third, the small terret or dee elevated above the water hook, with or without division post *o*, and the subdivisions *e e* in the dees *F F*, for lines or single harness, all for these safety reins or any other safety reins, for the use and purpose as specified and herein set forth.

Fourth, the combination of the attachment of the safety reins to the checks at *B* and *E*, passing them through elevated terret *H* or subdivided terrets *F F* to the driver's hands, by inclosing them within the driving reins, thus using "the line within a line," for the use and purpose as specified and herein set forth.

**69,270.**—AUSTIN E. THAYER, Plymouth, Conn., assignor to M. B. BRYANT, Brooklyn, N. Y.—*Third Seat for Carriages.*—September 24, 1867.—A supplementary seat is pivoted beneath the ordinary carriage seat, and when swung round in front is supported by a hinged leg.

*Claim.*—The seat *B* provided with a hinged leg *C* and hinged to the seat *A*, and constructed in the manner described, so as to be folded beneath the seat *A*, as herein set forth.

**69,271.**—C. E. THOMPSON and WILLIAM WALKER, New Haven, Conn.—*Machine for Nicking Screw Caps.*—September 24, 1867.—The revolving center has a spiral spring, against the end of which the point of the screw rests while the cap on the head is being nicked, and the spring throws it out when finished. The cutting die in the sliding center, when forced forward by the jointed lever, cuts the nick in the cap.

*Claim.*—The combination of the revolving center *a b* and spring *c* with the sliding center *B* and punch *i*, when they are constructed, arranged, and fitted to produce the result, substantially as herein described and set forth.

**69,272.**—JAMES S. TIBBALS, Milford, Conn.—*Lunch Box.*—September 24, 1867.—The inner vessel is suspended by trunnions from ears within the outer pail and has a cover; the outer pail has a bail and cover.

*Claim.*—The vessels *A* and *D*, constructed and arranged the one within the other, the pail *D* being suspended by the hooks *a* and trunnions *f*, and provided with a cover so as to form a space entirely around the inner vessel, and so that the said inner vessel may be removed, as described, and the outer vessel provided with a bail *B*, the whole constructed and arranged in the manner described.

**69,273.**—WILLIAM H. TOWNSEND, Camden, Ohio.—*Attaching Horses to Carriages.*—September 24, 1867.—The thill has an outwardly-projecting pin engaged by a plate, which is connected to the belly-band and clasps the thill.

*Claim.*—First, the clasp *d*, in combination with framework *h* and pin *c*, substantially as and for the purpose described.

Second, the clasp *d*, provided at its outer end with strap *m* and at its inner end with back bands *k*, in manner and for purpose set forth.

**69,274.**—JAMES W. TRUMAN, Macon, Ga.—*Cotton-Bale Tie.*—September 24, 1867.—The wire is bent quadrilaterally, being duplicated on one side and a part of two others. The respective ends of the band are wound over the single side and the opposite one, which is duplicated.

*Claim.*—The flexible tie *A*, constructed as described, its ends *a a* extending the entire width of one side, overlapping each other, and forming a side of double thickness, their points *d* turned at right angles with

the sides *a*, the latter adapted to be pressed together by the strap *B*, as herein shown and described, for the purpose specified.

**69,275.**—REUBEN D. TURNER, New York, N. Y.—*Apparatus for Ageing and Refining Wines and Liquors.*—September 24, 1867.—The wine passes into the "rose" bowl, from which it runs in small streams on the rotating arms to break it into spray, after which it flows into the upper inclined trough of a vertical series, through which it flows. The aëration is conducted in a vacuum to aid in the escape of noxious gases. The apparatus has a steam jacket.

*Claim.*—First, the process, substantially as herein described, of treating wine or other liquor in *vacuo* and under the influence of heat by agitating it in a distributed form so as to convert it into spray, and afterward circulating the same in a more compact or liquid state in thin layers or streams, essentially as and for the purpose or purposes herein set forth.

Second, the combination with the vacuum chamber *C* of one or more perforated vessels *B*, having perforated receiving distributors at or near their top and agitators operating within them, substantially as specified.

Third, in combination with the vacuum chamber *C* and vessel or vessels *B*, having agitators operating within them, of a series of reversely inclined trays or surface distributors, arranged for operation in connection with the agitators, essentially as herein set forth.

**69,276.**—CHARLES S. TWITCHELL, New Haven, Conn., assignor to JAMES G. ENGLISH and EDWIN F. MERSICK, same place.—*Folding Chair.*—September 24, 1867.—Below the point on the back at which it is pivoted to the back legs is a transverse bar, which is secured by a strap to the front part of the seat and keeps the back elevated.

*Claim.*—A folding chair in which the back is hinged to the front legs, as described, and connected with the front part of the chair by a band which, whether it constitute the seat or not, forms the means whereby the back is maintained upright when the chair is unfolded.

**69,277.**—P. W. VAIL, Newark, N. J.—*Machine for Pouncing Hats.*—September 24, 1867.—Improvement on the patent of Emile Nougaret, September 18, 1866. The blocks and rollers are so arranged that both sides of the brim are pounced in a single passage.

*Claim.*—The arrangement of the pouncing rollers *G* and *G'*, supporting beds *H H'*, and feed rollers *I I'*, all being made adjustable, substantially as and for the purpose specified.

**69,278.**—PETER A. VOGT, Buffalo, N. Y.—*Refrigerator.*—September 24, 1867.—External air is admitted through the drip pipe, where it is cooled in the chamber beneath the ice box before being admitted to the food compartment, without coming in contact with the ice.

*Claim.*—The refrigerating air chamber *D*, provided with education apertures *g g*, when so arranged under the ice box and combined with the drip and induction air pipe *F*, and final escape passage *i*, that the air entering the refrigerator will pass directly into the said air chamber through the drip pipe and thence into the food compartment, without coming in contact with the ice, substantially in the manner and for the purposes set forth.

**69,279.**—SILAS WARD, Richmond Ill.—*Animal Trap.*—September 24, 1867.—The weight of the rat on either of the tilting platforms closes the doors and lifts the shutter, exposing the entrance to the other compartment. The rat passing through this opening the platforms rise and restore the parts to their normal positions.

*Claim.*—The combination of the pivoted platforms *B*, connecting bars *D*, pivoted doors *C*, connecting rod *G*, lever *E*, connecting rod *H*, and weight *J*, with each other and with the compartments of the trap, substantially as herein shown and described.

**69,280.**—C. P. S. WARDWELL, Lake Village, N. H.—*Machine for Making Needles.*—September 24, 1867.—The reciprocating carriage moves horizontally



in the machine and in connection with other parts fulfils the following functions: of feeding or drawing the wires of needle lengths into the machine; of a stationary die in punching the eyes of the needles; of a support for the needles in slabbing or forming the barbs; of a guide to determine the form of the barbs; of a stationary shear blade in cutting off the needles from the wires, and of throwing the slabbing cutters out of action.

*Claim.*—First, the reciprocating table H, constructed as described, operating with other mechanism to feed the wire forward to punch the eyes of the needles, to slab the ends, to determine the forms of the barbs, and to cut the needles from the wires, substantially as herein specified.

Second, the wedge clamp Y, constructed, arranged, and operated substantially as and for the purpose herein specified.

Third, the guide or guides 16 on the top of the bed block N, operating substantially as and for the purpose herein specified.

Fourth, the spring presser plate or plates *r r*, arranged and operating in combination with the cutting off blades and eye punches, substantially as and for the purposes herein specified.

Fifth, the deflector or deflectors 15, operating in combination with the reciprocating bed block N and eye punch or punches arranged substantially as and for the purpose herein set forth.

Sixth, the combined arrangement of the bed block N, adjusted obliquely to the line of its motion reciprocating table H, and cutters *s s*, adjustable toward and from the table, substantially as and for the purpose herein specified.

Seventh, the mechanism substantially as herein specified for raising the cutters out of action and returning and retaining them in position for action, substantially as herein set forth.

**69,281.**—C. P. S. WARDWELL, Lake Village, N. H.—*Machinery for Making Needles.*—September 24, 1867.—The devices are for letting the needle slabbing bur cutters out of action as soon as the slabbing is completed, and again bringing the cutters down into position for action to slit the succeeding needles. The cutter frame vibrates on a fixed point projecting from a flange of the frame. The flange is adjusted by set screws.

*Claim.*—The mechanism herein described, arranged and operating substantially as set forth for the purpose of raising the cutters out of action, and returning and retaining them in action, successively as herein specified.

**69,282.**—GEORGE J. WARDWELL, Rutland, Vt.—*Machine for Quarrying Stone.*—September 24, 1867.—Improvement on his patents Nos. 40,584, 51,271, and 51,272, and reissues 2,087 and 2,088, designed for cutting vertical or inclined channels in the beds of quarries preparatory to cutting under and separating the blocks.

*Claim.*—Arranging the steam boiler, the steam engine, the feeding mechanism, and the channeling devices, all upon a single carriage B, substantially as described.

**69,283.**—GEORGE J. WARDWELL, Rutland, Vt.—*Machine for Quarrying Stone.*—September 24, 1867.—This is an improvement on the patents cited in the last preceding number. The claims in this refer to the devices employed. The toothed rails are placed on the vertical sides of the sleepers. The motor, the driving, cutting, and feeding mechanisms are upon one frame. A reversible pawl upon a rotating feed arm affords means for reversing the carriage without reversing the engine. A friction brake limits the motion of the carriage to the positive distance fed. The chisels are attached to solid stocks which are moved by vibratory segment levers. The standard guides, between which the chisel stocks work, may be reversed, end for end, to receive equality of wear. The feeding spur wheels are arranged on the outside of the carriage, in the rear of the chisel stocks, in conjunction with the outer toothed rails.

*Claim.*—First, the toothed rails *a a*<sup>1</sup>, and the spur wheels *a*<sup>2</sup>, arranged outside of the carriage B, in combination with the devices which control the feed and operate the chisels, substantially as described and shown.

Second, the combination of the chisel carrying stocks I, feed shaft C, and engine shaft E, substantially in the manner and for the purpose described.

Third, the combination reversible pawl *h*, vibrating arm *g*<sup>1</sup>, feed wheel *g*, friction brake, chisel carrying stocks I, racks *a a*<sup>1</sup>, and pinions *a*<sup>2</sup>, substantially in the manner and for the purpose described.

Fourth, the adjustable weight S, applied to the brake rod S<sup>1</sup>, in combination with the feeding mechanism and with the chisel carrying stocks, substantially as and for the purpose described.

Fifth, the chisel carrying stocks, either sectional or solid, stepped on their lower ends and constructed so as to receive removable chisels, substantially as described and shown.

Sixth, the friction brake applied to a stone channeling machine, in the manner substantially as described.

Seventh, communicating a rectilinear reciprocating motion to a chisel stock of a stone channeling machine by means of vibrating segmental levers H, cams *f f*, and flexible connections *c' c'*, substantially as described.

Eighth, the combination of reversible standard guides J J', with yoke K<sup>3</sup>, hinged bar K<sup>4</sup>, and the oscillating box K<sup>2</sup>, substantially as described.

Ninth, the arrangement of the balance wheel P upon the crank shaft E, on the inside of the carriage B, substantially as described.

Tenth, the arrangement of the engine shaft E, and feed shaft C, upon the carriage B, at intermediate points between the fire box G' and the standard guides J J', substantially as described.

**69,284.**—EZRA J. WARNER, Newark, N. J.—*Eyeletting Machine for Attaching Buttons to Garments.*—September 24, 1867.—The press has an adjustable die through which passes a spring slide bar for holding the tubular shank of the button or eyelet in proper position to be pressed on the garment.

*Claim.*—The combination of the sliding bar *h*, the die *n*, the sliding guide *d*, and the plunger C, all arranged and operating substantially as and for the purposes herein described.

**69,285.**—WILLIAM C. WATSON, Paterson, N. J.—*Clamp for School Books.*—September 24, 1867.—The cords pass through the plates which are tightened against the top and bottom of the pile by the revolution of the handle. The latter is fixed by a set nut in position to retain the books.

*Claim.*—The combination of the tightening nut *c*, and screw *b'*, with the roller handle B, frame A, and binding cord C, substantially as and for the purpose specified.

**69,286.**—FRANCIS J. WEBER, Carey, Ohio.—*Machine for Making Wagon Wheels.*—September 24, 1867.—The mandrel has conical sleeves which abut upon the ends of the boxing and hold the hub true while the gauge pin in the staff tests the distance of the spokes.

*Claim.*—The combination of perforated rod *e* and key *r* with the staff *n* and its gauge pin *t*, substantially in the manner and for the purposes described.

**69,287.**—WALTER S. WEED, Auburn, N. Y.—*Reversible Butt Hinge.*—September 24, 1867.—One joint piece has the socket and the other the pintle, and the wings of the joint pieces fit into the seats of the stock piece in such position as to serve for a right or a left hinge.

*Claim.*—The combination of the convertible stock pieces A and A' with the joint pieces B and C and wing pieces E and D, when all are constructed, operated, and used, substantially in the manner and for the purpose above specified.

**69,288.**—W. H. WELLS and JOSEPH HAWSE, Newport Center, Vt.—*Clothes Pin.*—September 24, 1867.—The wire is bent into a coil to form a spring, and its ends are bent and furnished with rollers, which part as it slips over the clothes and cord.

*Claim.*—The clothes pin constructed as described, having its ends *b* bent at right angles to the body to receive the rollers C, which press against each other beneath the clothes line, the latter being placed at D, between the arms *a a*, as herein shown and described.



**69,289.**—JOS. P. WHITE, Savannah, Ga.—*Marker, Hemmer, &c., for Sewing Machines.*—September 24, 1867.—The cloth is pressed down, gauged, tucked, or hemmed and marked. The adjustable slotted gauge is screwed to the cloth plate and the spring presser adjusted to the thickness of the cloth. The slotted and graduated plate is connected to the gauge and carries a hammer and a pencil.

*Claim.*—The combination of the adjustable gauge B B' with the adjustable presser C, both made and operating substantially as herein shown and described.

Second, the gauge B B' and presser C, in combination with the adjustable plate *d* and marker E, all made and operating substantially as and for the purpose herein shown and described.

Third, the above in combination with the adjustable hemmer F, when made as described.

**69,290.**—F. R. WILLSON, Columbus, Ohio.—*Harrow Teeth.*—September 24, 1867.—The plate is attached so as to range backward, and being split at mid-length the wings are turned in reverse directions.

*Claim.*—Making a harrow tooth of a single steel plate split part of the way across with independent wings *a a*, placed one ahead of the other, substantially as shown and described.

**69,291.**—FREDERICK WOOD, Bridgeport, Conn.—*Securing Whip Sockets to Carriages.*—September 24, 1867.—Each piece has a horn at each end, and when the two parts are united one clasp attaches the device to the rail of a carriage seat, and the other presents a socket to receive the whip.

*Claim.*—The herein-described clasp for securing whip sockets, constructed so as to be attached and united in the manner set forth, as an improved article of manufacture.

**69,292.**—EDWARD WRIGHT, Worcester, Mass.—*Calipers and Dividers.*—September 24, 1867.—The ends of the spring are curved to form eyes through which pass the pins in the legs. The adjusting screw opens and closes the legs.

*Claim.*—First, the combination with the arms or legs of a pair of calipers or dividers of the spring B, substantially as and for the purposes set forth.

Second, the combination with the arms or legs of a pair of calipers or dividers of the swiveled eyes C C', thumb screw D, and spring B, substantially as and for the purposes set forth.

**69,293.**—SYLVESTER J. WRIGHT, Ellsworth, N. Y.—*Stretcher for Hosiery.*—September 24, 1867.—The three portions which form the tree are united by pivoted dowel plates and driven apart by screw pins.

*Claim.*—An improved stretcher for drying hose, formed by the combination of the parts A B and C with each other, substantially in the manner herein shown and described.

**69,294.**—LEGRAND D. WYNKOOP, Owasso, Mich.—*Water Wheel.*—September 24, 1867.—The semicircular chutes deliver the current at tangents upon the buckets, which project inward from the face of the cylinder; after acting upon these the water is delivered to a turbine below.

*Claim.*—The upper wheel D consisting of a hollow cylinder *a*, provided with buckets *f* at its inner side and bottom, in combination with the chute C and lower wheel E, all arranged to operate in the manner substantially as and for the purpose set forth.

**69,295.**—WILLIAM ZELLER, Lebanon county, Pa., and R. LECHNER, Berks county, Pa.—*Bag Fastener.*—September 24, 1867; antedated September 18, 1867.—The tapering strap clasps the neck of the bag, the smaller end passing through a slot in the larger, and being retained by a screw nut.

*Claim.*—The conical threaded button C, when used in combination with the tapering strap A, in the manner and for the purposes set forth.

**69,296.**—EDWIN L. BERGSTRESSER, Hublersburgh, Pa.—*Corn Planter.*—September 24, 1867.—The feeders are oscillated by connection to a crank on the axle. Devices explained by claims and illustration.

*Claim.*—First, the feed wheel provided with sec-

tional feeders, each giving a different number of grains and a quantity of plaster corresponding to the amount of corn dropped, constructed and operated substantially as described.

Second, the shifting sections provided with circular rises or ribs fitting into corresponding grooves in the bottom of the box.

Third, the circular grooved lid or top incasing the sections, and to which the hopper is attached, constructed and applied substantially as described.

Fourth, the slotted lever having uprights in the bar operated by means of the movable pin, so that it can be used for each section, substantially as described.

Fifth, the slotted or perforated arms or ears on each section for shifting the sections and affording an attachment for the end of the pitman, as described.

Sixth, the V-shaped bottom or division under the sections, in connection with the slide or cut-off, operating as described.

**69,297.**—C. W. STAFFORD, Saybrook, Conn.—*Pavement.*—September 24, 1867; antedated May 16, 1867.—The blocks are united by double dovetailed keys and rest on sleepers.

*Claim.*—First, wooden paving blocks secured together in sections by double dovetailed strips or double headed keys B inserted in their sides, substantially as set forth.

Second, the stringers F arranged transversely of the street, in combination with sectional paving blocks, substantially as and for the purpose set forth.

Third, wooden paving blocks connected in sections and grooved transversely, as described and for the purposes set forth.

**69,298.**—CALVIN ADAMS, Pittsburg, Pa.—*Foot-rest.*—October 1, 1867.—The curved foot-rest has a large base to keep it steady in the bath tub.

*Claim.*—Constructing a foot-rest with the base A of suitable diameter for its support, and the rest B of convenient shape to form a rest for the foot connected by one or more columns C C, substantially as shown and described.

**69,299.**—G. W. ADAMS, Rochester, N. Y.—*Fence.*—October 1, 1867.—The rail ends overlap in a vertical series and are held between two angularly bent metallic rods secured to the base piece. The corners have diagonal brace wires passing from the top to the ends of the base piece.

*Claim.*—The arrangement of the metallic stakes P, double bracing wire *f*, in connection with the bed plate C and the rails R of the fence, substantially in the manner herein shown and described and for the purposes set forth.

**69,300.**—E. A. ALEXANDER and H. C. KELLOGG, Buchanan county, Iowa.—*Broom Head.*—October 1, 1867.—The brush is constructed on a metallic frame with an axial screw bolt connecting it with the handle. The handle has a metallic socket embracing the conical end of the brush.

*Claim.*—The employment of slotted bar *b* when arranged in combination with hooks *d d*, loop *c*, and handle or screw rod *a*, in the manner and for the purpose set forth.

**69,301.**—THOMAS ALLEN, Arrow Rock, Mo., assignor to himself, JOSEPH NICHOLSON, same place, and A. B. GARRISON, St. Louis, Mo.—*Corn Planter.*—October 1, 1867.—The triangular frame has at its vertex a pendent furrow plow and a seed hopper above. As the plow opens the earth the slide valve is thrown forward by the lever till it empties the corn into the conductor. The coverer and roller following completes the operation.

*Claim.*—The arrangement of the furrow plow B, coverers *k k*<sup>1</sup>, side boards O O<sup>1</sup>, rolling wheel D, slide valve *d*, worked with a lever E, or automatically, the adjustable ears or pins *p* on the rolling wheel, all in combination, when constructed and arranged substantially as shown and specified.

**69,302.**—ISRAEL B. ARNOLD, Providence, R. I., assignor to CHARLES P. DUNHAM, same place.—*Clothes Dryer.*—October 1, 1867.—The quadrilateral frame has pivoted joints so that it will fold together into a small compass.

*Claim.*—The improved folding clothes-horse as com-



posed of a central post A, the series of posts B B B B, their several connection bars C C C, the catch plates D, and screws e, arranged and applied together substantially in manner and so as to operate as set forth.

**69,303.**—CHARLES AUSTIN, Concord, N. H.—*Machine for Making Socketed Reed Plates.*—October 1, 1867.—A pack of blanks with the reed slot previously made is introduced into the hopper and the pieces are successively recessed, reduced to proper width and thickness, smoothed and finished ready for reception of the reeds.

*Claim.*—The combination as well as the arrangement of the guides D<sup>1</sup> D<sup>1</sup>, the endless carrier B, the presser I, the rotary cutter F, the vibratory frame G, and the adjustable cam H, as described, the said cutter F, the carrier B, and cam H being provided with mechanism for operating them, substantially as described.

Also, the combination as well as the arrangement of the hopper E, the guides D<sup>1</sup> D<sup>1</sup>, the endless carrier B, the presser I, the rotary cutter F, the vibratory frame G, and the adjustable cam H, as described, they being provided with mechanism for operating the carrier, the cutter, and the cam, as explained.

Also, the adjustable cam H, made substantially as described.

Also, the combination as well as the arrangement of two or any other suitable number of edge cutters L L and one or more pressers I K with the endless carrier B, the guides D<sup>1</sup> D<sup>1</sup>, the rotary cutter F, the vibratory frame G, and the adjustable cam H, or the same and the hopper E, the whole being to operate together and provided with mechanism for actuating the carrier, the cutter, and the cam, substantially as herein before explained.

Also, the combination as well as the arrangement of the two endless carriers B M, one or more side trimmers or plane irons U, the guides D<sup>1</sup> D<sup>1</sup> R R, the reverser S, the cutter F, the vibratory frame G, and the adjustable cam H, the carriers, cutter, and cam being provided with operative mechanism, substantially as described.

Also, the combination as well as the arrangement of one or more smoothers V, one or more finishers W, the plane iron U, the reverser S, the endless carriers B M, the guides D<sup>1</sup> D<sup>1</sup> R R, the cutter F, the vibratory frame G, and the adjustable cam H, the whole being provided with mechanism for operating the carriers, the cutter, and cam, substantially as described.

Also, the combination as well as the arrangement of the hopper E, the guides D<sup>1</sup> D<sup>1</sup>, the carrier B, one or more pressers I K, the rotary cutter F, the vibratory frame G, the edge cutters L L, the reverser S, the guides R R, the carrier M, the face cutter U, or the latter and the presser T, also their combination as well as their arrangement with one or more smoothers V, or one or more finishers W, the carriers and cam and rotary cutter being provided with mechanism for operating them, substantially as hereinbefore specified.

**69,304.**—WM. R. BAGNALL, Chelsea, Mass.—*Wardrobe Bedstead.*—October 1, 1867.—The bedstead is hinged so as to let down laterally from one end of the cupboard. The hinged head and foot boards fold down before entering the cupboard.

*Claim.*—First, a hinged oblong bed frame, arranged to swing laterally from a case, as and for the purpose described.

Second, a swinging bed frame, combined with a surmounted wardrobe or bureau, or both, substantially as described.

Third, a wardrobe or bureau, or both combined, with a swinging bed frame having head and foot pieces swinging inwards, as and for the purpose described.

**69,305.**—JESSE P. BARRICK, Massillon, Ohio.—*Carriage Shaft Coupling.*—October 1, 1867.—The thill iron is pivoted between the cheeks of the stay by the projected spring bolt.

*Claim.*—The pivoted or hinged stop J and spring I, arranged in relation to the coupling, in the manner and for the purpose substantially as set forth.

**69,306.**—WM. P. BATEMAN, Barrington, R. I., assignor to himself and NATHAN F. MATTHEWSON,

same place.—*Carriage Button.*—October 1, 1867.—The eccentric head has a pin passing axially through the shank on which it turns.

*Claim.*—A carriage button, as constructed, with the head eccentric to the body, and with a journal to project from the head, and with a screw and a prismatic base to its body, as described.

Also, the carriage button, as not only made with the head eccentric to the body, and applied thereto by means of a journal so as to be capable of being revolved relatively to it as specified, but as having a prismatic base, and a screw to project therefrom, as explained.

**69,307.**—ALONZO BESWICK, PARIS RICHARDSON, and JOHN W. BROWN, Kelly, Ill.—*Machine for Making Wagon Wheels.*—October 1, 1867.—Bars support rests, and are attached to the end of the hub as guides for the anger while boring and for the spokes while being driven.

*Claim.*—The combination and arrangement of the cross-bar C and movable bar E, with the guide bars H H, operating in the manner and for the purposes set forth.

Also, the auger frame W, in combination with the screw M and guide bar H, operating substantially as described and for the purposes stated.

**69,308.**—PETER E. BLAND, St. Louis, Mo.—*Brick Machine.*—October 1, 1867.—The mold wheel rotates intermittently in a vertical plane, and each mold receives a charge from the cylinder above on arriving at the summit. The posts of the followers come in contact with a cam before the exterior pressing plunger condenses the clay in the mold. Passing this point, the cam drives the followers, which drop the bricks onto the carriage beneath, which is intermittently advanced. A second exterior plunger returns the follower so as to open the mold for the reception of another charge.

*Claim.*—First, the combination of movable platens or followers b in a mold-bearing cylinder B revolving about a fixed central shaft H, with one or more fixed cams k upon said shaft, all substantially in the manner and for the purpose herein set forth.

Second, the combination of compressing plates, or plungers G, with a revolving mold-bearing cylinder B, when said compressing plungers have the within-described reciprocating movements, and operate in unison with an intermittent movement of said cylinder, substantially as and for the purpose herein set forth.

Third, the combination of pistons g, or their equivalents, with a revolving mold-bearing cylinder B and radial cam-actuated followers b in the molds thereof, when said pistons g have substantially the within-described reciprocating movements, for the purpose herein specified.

Fourth, the combination of a ratchet wheel W, or other equivalent device, with the hollow shaft of a mold-bearing cylinder, encircling a fixed central shaft H, all substantially in the manner and for the purpose herein set forth.

Fifth, the combination of a rocking shaft j and pawl levers w w, with pins or catches i i on the revolving mold-bearing cylinder of a brick machine and with ratchet bars l l on a receiving car running beneath said cylinder for the purpose of imparting an intermittent forward movement to the car in unison with the intermittent revolution of the cylinder, all substantially in the manner and for the purpose herein set forth.

Sixth, the combination of inclined bars r, with the frame of the improved brick machine, and with the coupling hooks or catches o of the cars running through the same, for the purpose of automatically disconnecting the cars in their forward movement, substantially as herein set forth.

Seventh, the combination of a stationary transverse sweep bar n, with a revolving mold-bearing cylinder B and movable followers b therein, to effect a detachment of the molded material from the face of said followers after its discharge from the mold, substantially in the manner herein specified.

Eighth, the combination of detachable mold frames F with a grooved or suitably framed revolving mold-bearing cylinder B, substantially in the manner and for the purpose herein set forth.

Ninth, the combination of any suitable packing



material with the readjusting pins or pistons  $g^1$  of a rotary cylinder brick machine, for the purpose of lubricating or dampening the sides of the mold therein, substantially as herein set forth.

Tenth, the combination of an adjusting plate J with the end of a fixed central cam shaft H, passing centrally through the mold-bearing cylinder B of a revolving cylinder brick machine, substantially in the manner and for the purpose herein set forth.

**69,309.**—FRANKLIN H. BROWN, Chicago, Ill., assignor to himself, E. F. PEUGEOT and LEMUEL H. FLERSHEIM, of same place.—*Machine for Weaving Baskets.*—October 1, 1867.—The skeleton being placed in position the jaws feed in the filling as the cam wheel oscillates the ribs while the basket is rotating.

*Claim.*—First, a skeleton basket form, as and for the purposes set forth.

Second, the packing and forming device F, or its equivalent, as and for the purposes specified.

Third, the guide pieces M, constructed and operating as and for the purposes specified.

Fourth, cam Z, in combination with the band X, as and for the purposes specified.

Fifth, the flexible teeth T of the controlling band, as and for the purposes set forth.

Sixth, the holder 3, in combination with rod 1 and cam Z, as and for the purposes set forth.

Seventh, the cam G, in combination with the screw C, as shown, and for the purposes specified.

Eighth, the slide, &c., in combination with the packing and forming device F, as and for the purposes set forth.

Ninth, in a basket machine, the oscillating standard 4, in combination with the weaving device, as and for the purposes specified.

**69,310.**—JOHN C. BROWN, Crawfordsville, Ind.—*Cane Stripper.*—October 1, 1867.—The cane is topped by the knife, and stripped by passing one of the sockets down the stem. The sockets are opened by drawing open the spring jaw with the cord.

*Claim.*—The cane stripper and cane cutter herein described, when the same is considered as a whole device, and constructed in its said several parts as aforesaid, and used for the purpose and in the manner substantially as set forth.

**69,311.**—T. W. BROWN, New York, N. Y.—*Hat and Coat Rack.*—October 1, 1867.—Explained by the claims and illustration.

*Claim.*—The arrangement of the lower curved or coat prong so as to stand obliquely with the larger, upper, or hat prong, and the fastening plate, substantially in manner as described.

Also, the tri-pronged hook, as made with the hat prong and the two coat prongs, and with these latter arranged obliquely with respect to the fastening plate and such hat prong, and to project in opposite directions relatively to the latter, the whole being substantially as described and represented.

**69,312.**—L. BRUNETTI, Rovigno, Italy.—*Embalming and Preserving Animal Substances.*—October 1, 1867.—The blood and excretory matter is washed out by injection of water. The fatty matter is removed by the injection of alcohol and sulphuric ether. The ether is removed by injection of alcohol followed by water. Tannic acid mingled with lukewarm distilled water is injected into the arteries, veins or excretory canals. To tie up the vessels woolen strings should be used, as vegetable fibre stains and silk cuts them. In desiccation the piece is placed in an oven kept to a temperature of 92° centigrade by a hot water jacket. Compressed air is passed through a chamber containing a desiccating compound, as chloride of calcium, and through an oven, and brought in contact with the piece. The piece may be cut in slices, which are wrapped in blotting paper and surrounded by dry plaster, which is changed from time to time.

*Claim.*—The method of and means for embalming or preserving animal substances from decay, substantially as herein set forth and described.

**69,313.**—D. CATCHPOLE, Geneva, N. Y., and J. HAVENS, Auburn, N. Y.—*Wood-bending Machine.*—October 1, 1867.—The sliding bed is adjusted in conjunction with the curved block when actuated by the attached gearing for bending timber.

*Claim.*—First, the arrangement of the sliding bed  $D^1$ , lever  $j$ , rod  $r$ , presser head  $e$ , former block B and its clamps, and the wheel W, substantially in the manner and for the purposes shown and described.

Second, the levers G, former H, rotating head Q, and former F, arranged and operating substantially in the manner shown and described, for the purpose of giving the vertical and lateral bends at the same time, as set forth.

Third, the arrangement of the levers G, pivoted to the sliding bed  $D''$ , in combination with the rollers R attached to the bed D, as and for the purposes specified.

**69,314.**—NATHAN A. CATES, Thorndike, Me.—*Cultivator.*—October 1, 1867.—The colter guides the front of the machine and stirs the ground, while the scraper clears the space between the furrows made by the plows, which throw the earth outwards to form a ridge that is smoothed by their overlying wings.

*Claim.*—First, the combination of the central beam, carrying the adjustable roller, the colter and the scraper, with the laterally adjustable beams, carrying the ridging and smoothing plows, the combination being and operating substantially as described for the purposes set forth.

Second, the combination with the scrapers of the laterally adjustable plows, all constructed and arranged for joint operation, as described.

Third, the laterally adjustable furrow-turning and ridge-smoothing plows, constructed and operating as described.

Fourth, the combination with the central beam and colter of the clevis bracket and adjustable yoke carrying the leading roller, all constructed, arranged and operating as described.

**69,315.**—WALDRON J. CHEYNEY, Wallingford, Pa., and E. F. DIETERICKS, Philadelphia, Pa.—*Architectural Porcelain.*—October 1, 1867; antedated September 20, 1867.—Sand, 50 lbs.; cryolite, 20 lbs.; white oxide of zinc, 5 lbs., are fused and cast in molds to form cornices, balusters, &c.

*Claim.*—As a new article of manufacture, architectural porcelain, composed of cryolite, or its chemical equivalents, in combination with silica and a metallic oxide, or an alkali, or both, pressed and cast in molds, and pressed or rolled as above set forth.

**69,316.**—WALDRON J. CHEYNEY, Wallingford, Pa., and E. F. DIETERICKS, Philadelphia, Pa.—*Plate Porcelain.*—October 1, 1867; antedated September 20, 1867.—Matter similarly composed to that in the preceding patent is manipulated similarly to opaque glass and used for analogous purposes.

*Claim.*—As a new article of manufacture, plate porcelain, composed of cryolite or its chemical equivalents, and silica alone, or cryolite, or its chemical equivalents, in combination with silica and a metallic oxide, or an alkali, or both, fused and cast on a table, and rolled or blown into cylinders, and cut and flattened, as above described.

**69,317.**—WALDRON J. CHEYNEY, Wallingford, Pa., and E. F. DIETERICKS, Philadelphia, Pa.—*Manufacture of Dress Trimmings.*—October 1, 1867.—Powdered cryolite, 25 pounds, and sand, 50 pounds, are fused together to form bugles, beads, &c., for dress trimming.

*Claim.*—As a new manufacture, bugles, beads, or buttons, made of cryolite, or its chemical equivalents, fused with silica, worked substantially in the manner and for the purpose described.

**69,318.**—WALDRON J. CHEYNEY, Wallingford, Pa., and E. F. DIETERICKS, Philadelphia, Pa.—*Enamel to be Applied to Metals, Earthenware, Artificial Stones, and other Materials.*—October 1, 1867; antedated September 19, 1867.—Sand, 50 pounds, and cryolite, 25 pounds, are fused together. Metallic oxides may be added.

*Claim.*—As a new manufacture, an enamel composed of cryolite, or its chemical equivalents, and silica fused together, substantially as above set forth.

**69,319.**—RICHARD COLLINS, Chicopee, Mass.—*Picker Staff for Looms.*—October 1, 1867; antedated September 14, 1867.—When the upper end of the lever is thrown from right to left, the cam graduates its



motion so that it moves in a horizontal line when required. By loosening the screw and moving the indicator, the upper end of the lever will move from a given point in a diverging line. The spring throws back the lever to its resting place.

*Claim.*—The combination of the cam *c* with the lever *a* and plate *d*, substantially as and for the purpose described.

**69,320.**—JESSE D. COTTRELL and GEORGE DRAPER, Milford, Mass.—*Loom.*—October 1, 1867.—The two main heads of the yarn beams are brought close together to avoid hiatus and consequent divergence of the warp threads at the point of junction. The equalizing apparatus causes them to “let off” yarn at equal speeds and consequent even tension, notwithstanding variation in the sizes of the masses of yarn on the respective rollers.

*Claim.*—First, the combination of the “let off” mechanism two yarn beams, and a friction and equalizing apparatus, substantially as described.

Second, the “let off” mechanism, made and arranged with the friction equalizing apparatus, substantially as described.

Third, an improved arrangement of the two yarn beams, and the equalizing and friction apparatus, substantially as described, the two beams under such an arrangement being placed close together, and the equalizing and friction apparatus being arranged outside of, rather than between them, as explained.

Fourth, an improved friction and equalizing apparatus or mechanism, substantially as described.

Fifth, the arrangement of the gears *o r r m* and *l*, constituting the “compound motion.”

**69,321.**—H. W. COVERT, Rochester, N. Y.—*Step and Extension Ladder.*—October 1, 1867.—The step ladder has rear and lateral braces hinged to it, and which, when the ladder is transformed into an extension ladder, are secured to the side pieces. The inner section of the ladder slides up, and is engaged with clamps and hooks to form the extension ladder.

*Claim.*—As a new article of manufacture, the combined step and extension ladder *A B*, having combined and arranged therewith both lateral and rear braces *D C* in such a manner as to expand and brace when used as a step ladder, but fold compactly when used as an extension ladder, as herein set forth.

**69,322.**—M. CROSSMAN, Marengo, Mich., and P. A. SPICER, Marshall, Mich.—*Harvester Rake.*—October 1, 1867.—As the rake descends the end of the abutting pin comes in contact with the end face of the particular abutment that may be presented when sliding over the short arm of the guide lever. The rake is suspended horizontally till tripped by the sloping under side of the hinged abutment passing over the upward projection of the set cam that lifts the abutment from its contact with the abutting pin. The rake arm falling, the rake drops with rigid parallelism on the platform and sweeps off the cut grain.

*Claim.*—First, the mode of suspending and tripping a series of revolving rakes or reels, and attached vibrating arms, by the use of an inclined track-way *H* in combination with the traversing roller *R*, abutting pins *P*, hinged abutments *J*, and tripping cam *K*, connected, arranged, and operated substantially as herein described.

Second, changing the height of the plane of rotation, in rakes or reels, when so suspended by the employment of stepped faces *I* on the hinged abutment *J*, in combination with the guide lever *L*, as set forth.

Third, preserving the parallelism of the rake with the vibrating arm and with the platform of the machine, by overbalancing and stopping said rake, and connecting it with its revolving central cap by the combined arrangement of the bracket arm *M*, rod *N*, link *O*, and stop ears *S*, substantially in the manner herein specified.

**69,323.**—MARSHALL S. CURTISS, Bradford, Ill.—*Coupling Plows to Wheeled Carriages.*—October 1, 1867.—The plow beam is adjustably secured in the curved slotted arm attached to the axle, and to the pendent clevis attached at the rear of the tongue.

*Claim.*—First, the curved and slotted arm *C*, its form and manner of adjustment between the ears *I*,

combined with the plow beam *B*, substantially as and for the purpose set forth.

Second, the forward guide *Q*, combined with the arm sockets *N*, arranged to allow the forward end of the plow beam *B* to have a lateral and vertical motion, substantially as set forth.

Third, the arrangement of the seat *F* in front of the crank axle *E*, combined with lever *D*, the whole being arranged to set plow *B* in the ground, or lift it out of the ground, as described and set forth.

**69,324.**—WILLIAM DAVIS, Arrow Rock, Mo.—*Churn.*—October 1, 1867.—The dasher revolves in a vertical plane, and its angular beaters divide the cream in each direction. The operating power may be a spring or weight. The upper portion of the case is hinged and removable.

*Claim.*—The disks *D*, shaft *a*, diamond shaped beaters *D'*, gears *a' b'*, and spring *B*, in combination with the case *A A'*, all the parts being constructed, combined, and arranged as and for the purpose specified.

**69,325.**—HIRAM DILLAWAY, Sandwich, Mass.—*Glassware Press.*—October 1, 1867.—During the first part of the downward movement of the plunger the segment on the driving shaft meshes into the pinion on the plunger shaft, and effects a corresponding rapid descent of the plunger. As the plunger reaches the mold, and its descent is resisted by the contents, the driving segment runs out of connection with its pinion, and the pinion on the driving shaft simultaneously runs into connection with the segment on the plunger shaft. The same power effecting the descent of the plunger at a slower speed; the segment gears upon the plunger shaft being adjustable in reference to the position, so that the change may be regulated from quick speed and light pressure to slow speed at the point where resistance increases.

*Claim.*—The combination of the driving segment gear and pinion with the respective pinion and segment gear with which each alternately connects when arranged to operate to produce the descent of the plunger or piston, substantially as shown and described.

Also, combining the follower with mechanism which not only effects its descent, but holds it stationary upon the mold during the continued descent of the plunger, substantially as described.

**69,326.**—WILLIAM DIXON and LUMAN HEATH, Adams, N. Y., assignors to themselves and T. P. SANDERS, same place.—*Clutch for Suspending Hay Forks.*—October 1, 1867.—The arms have inwardly projecting claws and are drawn in by the ends of the rope to which the pulley is attached. A ratchet bar is pivoted to one arm and engages a catch on the other to hold the claws engaged.

*Claim.*—First, combination of the arms *A A'*, spurs *J J*, stock or frame *D d*, pulleys *B b*, cord or flexible connection *C*, and springs *L L*, substantially as and for the purpose specified.

Second, the combination with the above of the clasp *I*, staff *h*, latch or ratchet bar *F*, catch *M*, and spring *G*, arranged and operating in the manner and for the purpose set forth.

Third, the combination of the arms *A A'*, pulleys *B b K*, stock *D d*, cord *C*, ring *E*, latch *F*, spring *G*, staff *h*, and clasp *I*, the whole constructed and operating in the manner and for the purpose explained.

**69,327.**—WILLIAM DUNN, Newark, N. J.—*Adjustable Frame for Stretching Hides.*—October 1, 1867.—The hide is hung over the central bar and is secured to the movable bars that slide in the slots of the ratchet frames when forced down by the lever. They are retained in position by the dogs that engage in the ratchet bar.

*Claim.*—The application of movable planks to a stationary frame, in the manner set forth, and worked by levers as shown, the planks divided in the middle, and connected by hinge or each plank in one continuous piece, and working independently of each other, thus adjusting itself to the formation of the hide, and stretching each part to its fullest capacity.

**69,328.**—GEORGE E. EVANS, Boston, Mass.—*Centrifugal Apparatus for Washing Sugar.*—October 1, 1867.—The circular partition is placed within and



concentric with the rotating cylinder and is composed like it of wire cloth, and retains the sugar near the periphery of the cylinder so as to be subjected to the centrifugal force generated by the rapid rotation.

*Claim.*—First, the movable inner circular cylinder or partition B in centrifugal sugar machines, either with or without foraminations, the same being capable of being attached without alteration of the centrifugal tub by means of a conical or cylindrical socket, fitting upon a central conical or cylindrical shaft, substantially as described.

Second, constructing the inner cylindrical partition B in centrifugal sugar machines of sheet metal, or any equivalent material, without foraminations or interstices, substantially as described.

Third, operating the inner cylindrical partition B, when made without foraminations, to make a wall of sugar by lifting the same after the rotation of the centrifugal has commenced.

**69,329.**—CHARLES T. FABER, New York, N. Y.—*Self-adjusting Lid Support for Pianos, Desks, &c.*—October 1, 1867.—The prop is projected by a spiral spring so as to automatically place itself in position for bracing the lid.

*Claim.*—The adjuster for bridging the notch or stop which holds the prop or support for the lids of pianos, desks, and other similar articles of furniture, made automatic in its action by means substantially as described.

**69,330.**—HENRY B. FERNALD, Dedham, Mass.—*Railway Truck.*—October 1, 1867; antedated September 25, 1867.—Till arriving at a curve the axles remain parallel. When turning a curve, the front wheels cause the truck to move round on its guides, and sway the pivoted bar, which causes a corresponding motion in the rear truck, bringing the wheels into position corresponding to those of the forward truck.

*Claim.*—First, the circular truck T, constructed as described, with hangers east or fitted upon it, and extending above and below, substantially as set forth.

Second, in combination with the above, the guides I I, the convex wheel E, and the drive wheel D, constructed and arranged as set forth.

Third, the truck V, with the hangers extending above and below, and provided with slotted openings for the wheels O O, a traverse opening to admit the axle, and a central circular opening, in combination with the guides L L, substantially as described and set forth.

**69,331.**—SAMUEL T. FOWLER, Brooklyn, N. Y.—*Composition of Matter for Filling Safes and for Other Purposes.*—October 1, 1867.—Saw-dust is mixed with mortar, either common or hydraulic, and used as concrete in the walls of safes, ice houses, &c.

*Claim.*—The use of saw-dust, or its substitute, for this purpose, in combination with any one or more of the plastic materials herein described, for the purpose specified.

**69,332.**—SAMUEL FREET, Upper Strasburg, Pa.—*Horse Rake.*—October 1, 1867.—The spring hooks hold the head down in position. The double-acting lever reverses the motion.

*Claim.*—The combination of the double-acting lever A, and the roller B, with hooks c c, the lever being attached to the roller B, which is attached or fixed on the ends of the shaft B', having in it two hooks c c, to hold down the teeth when raking heavy hay, or heaping the same.

**69,333.**—SAMUEL FRISBIE and ANDREW S. URSON, Farmington, Conn.—*Making Carriage Bolts.*—October 1, 1867.—The heated bolt is struck up by dies and headers, into sufficiently near its required shape to be readily finished by the single heat.

*Claim.*—The method, substantially as herein described, of making bolts with heads and square necks, such method consisting in enlarging or swelling that part of the rod which is to form the neck, and at the same operation forming a rudimentary or preliminary head thereon, and subsequently forming the square neck by squeezing, and the finished head by compression, the whole mode of manufacture being substantially as described.

**69,334.**—BENEDICT GANTNER, Tell City, Ind., assignor to himself and JOHN SPÖRRE.—*Shoemaker's*

*Bench.*—October 1, 1867.—By pressing on the treadle the drum is rotated and the straps which are attached to the head are wound on it, the spring is compressed and the strap that holds the work is tightened. To unloose the work the treadle is pressed, which, connecting with the pawl, withdraws it from the ratchet and the spring returns the various parts to their former positions.

*Claim.*—First, the combination of the treadle C, strap D, drum a, and straps e h, substantially as and for the purpose described.

Second, the combination of the treadle C', strap D', pawl b, and ratchet a', or their equivalents, substantially as and for the purpose specified.

Third, in combination with the elements of the above claims, the clamp E, constructed as described, for the purpose set forth.

Fourth, the spring c, in combination with the bar d, cross head f, and straps e h, substantially as and for the purpose specified.

Fifth, the friction device k k' l, in combination with the groove j, arranged and operating substantially as described.

Sixth, the dovetailed key i, in combination with the groove j, and shoulder B<sup>2</sup>, substantially as and for the purpose set forth.

Seventh, the rollers m, in combination with the shoulder B<sup>2</sup>, for the purpose specified.

Eighth, the removable cushion G, and anvil F, adapted to be applied substantially as described, for the purpose specified.

**69,335.**—JOHN GEHR, Mercersburg, Pa.—*Three Wheel Carriage.*—October 1, 1867.—The journals of the forward axle work in boxes attached to a horizontal fixed wheel that supports a rotating ring to which are attached the couplings that connect the axles.

*Claim.*—First, the ring B, working in the groove a'' of the wheel A, and having the projections b<sup>1</sup> b<sup>1</sup>, substantially as and for the purpose specified.

Second, the spring D, bent in the form shown, attached to the wheel A by the bolts d d, and having the carriage at d<sup>1</sup>, substantially as and for the purpose described.

Third, the metallic guard, substantially as and for the purpose specified.

**69,336.**—RILEY JAMES GILBERT, Hanover, Wis.—*Gate.*—October 1, 1867.—The gate is balanced by the weighted cords running over the anti-friction rollers. The rollers that carry the suspension ropes on the inclines over the gate, run down the incline and carry the gate clear of the track.

*Claim.*—First, the inclined ways G and H, when constructed with ascending and descending inclines, and used to guide and support separately the ends of a gate, substantially as described.

Second, operating a gate, having its ends separately supported on two parallel double inclined ways by means of the handles E and cord D, the latter being provided with a stop f, in such a manner that the gate is operated by the cord, together with its own momentum and gravity, substantially as described.

**69,337.**—NEWTON J. GLOVER, Waveland, Ind.—*Farm Gate.*—October 1, 1867.—The gate runs suspended on the double-flanged roller till it attains its equilibrium, when it swings at right angles to its former position.

*Claim.*—The double-flanged roller B, the pieces A E H I P, and the brace N, in combination, substantially as described and set forth.

**69,338.**—GEORGE B. GRUMAN, Ridgefield, Conn.—*Machine for Cutting Ice into Blocks for Storing.*—October 1, 1867.—The endless band connecting with the pulley on the driving shaft actuates the saw that has its bearings in the vibrating frame, which is lowered as the ice is cut.

*Claim.*—The arrangement of the revolving circular saw C, adjusting frame B, lever D, in combination with the other attachments, in the manner herein described as and for the purpose set forth.

**69,339.**—GEORGE W. HALL, Triangle, N. Y.—*Potato Digger and Weeder.*—October 1, 1867.—Explained by the claims and illustration.

*Claim.*—First, a spade or spading fork, having a



pivoted fulcrum or rest provided with a swivel joint, substantially as and for the purpose set forth.

Second, a spade or spading fork, having a pivoted fulcrum or rest where the said fulcrum is adjustable on the handle of the spade or fork, and of adjustable length, substantially as described.

Third, a spade or spading fork, constructed as described, viz: with an adjustable, pivoted swiveling fulcrum, as and for the purposes set forth.

**69,340.**—GEORGE W. HALL, New Haven, Mich.—*Double Rotary Harrow.*—October 1, 1867.—The bent rim and the spokes have teeth and their axial pin is journaled in bearing sleeves attached to the draft bars. The eranks of the rotary harrows are attached by a connecting bar.

*Claim.*—The combination of the bent rim *a*, having teeth therein, sleeves *s s* and *x x*, center pin *c*, and cross-bar *i*, all constructed and arranged as and for the purposes described.

**69,341.**—G. G. HICKMAN, Coatsville, Pa., assignor to himself, FRANCIS H. WRIGHT and JOHN CRISWELL.—*Device for Preventing Horses from Cribbing.*—October 1, 1867.—The throat band has an elastic tubular pad and a prong. The swelling of the throat incident to "cribbing" compresses the pad and exposes the prong which pierces the throat.

*Claim.*—The combination of the rubber part or shield *A*, with the prong *B*, substantially as and for the purpose specified.

**69,342.**—ANTHONY HILTS, Jr., Springdale, Ohio.—*Harvester.*—October 1, 1867.—The tongue is pivoted to a bar on the frame and is laterally adjustable, to vary the angle of draft, by means of a quadrantal plate and set pin.

*Claim.*—The quadrantal plate *C*, when provided with stop *s*, and perforations *i i*, in combination with bar *E* and tongue *A*, all operating in the manner and for the purpose described.

**69,343.**—AUGUSTINE E. HORTON, North Leominster, Mass.—*Mosquito Frames for Windows.*—October 1, 1867.—The main and the smaller frames are covered with netting; the latter is hinged to a cross-bar so as to be capable of opening.

*Claim.*—The mosquito shade as composed of the main and auxiliary rectangular mosquito netting-covered frames *A C*, and the cross-bar *B*, arranged and hinged together as specified.

**69,344.**—ARTHUR Y. HUBBELL, Elmira, N. Y.—*Sad Iron.*—October 1, 1867.—The upper plate and the smoothing plate are separated by a layer of non-conducting material.

*Claim.*—The employment of a non-conducting substance, in combination with the parts *A B*, constructed and arranged substantially in the manner and for the purpose set forth.

**69,345.**—WILLIAM JEFFRIES, West Bromwich, England.—*Puddling and other Furnaces.*—October 1, 1867; antedated January 22, 1866.—Explained by the claims and illustration.

*Claim.*—First, the improvements in puddling furnaces and heating furnaces, and other reverberating furnaces used in the manufacture of iron and steel hereinbefore described, and illustrated in the accompanying drawing; that is to say, constructing the beds of the said furnaces substantially in the manner hereinbefore described and illustrated, whereby the whole or nearly the whole of the plates used in ordinary furnaces are dispensed with, and great economy, both in the cost of keeping the furnaces in repair and in the saving of time consequent upon the furnaces working a long time without requiring repair, is obtained.

Second, manufacturing a fettling for lining fettling, or repairing reverberatory furnaces, by tapping or running liquid mill or other cinder into molds, so as thereby to form bricks or blocks, which bricks or blocks are used to line fettle, or repair the bottoms of reverberatory furnaces, instead of fettling the said furnaces with red ore, pottery mine, and tap cinder, calcined and ground as is usual.

**69,346.**—C. GILLSON, Worcester, Mass.—*Strawberry Ripener.*—October 1, 1867.—The plant grows

through the perforation in the crown of the glass dome whose edges rest upon the ground.

*Claim.*—First, a strawberry ripener made of glass, to be used substantially as and for the purpose set forth.

Second, a strawberry ripener for supporting the fruit, and preventing the runners taking root about the stem of the plant, substantially as set forth.

**69,347.**—JAMES G. JOHNSTON.—Allegheny City, Pa.—*Sad Iron Heater.*—The handle and cap are removable for the insertion of the grated heater whose bars fit into the indented bottom plate of the base piece.

*Claim.*—The grated heater *f*, when the bottom of same is corrugated, and used in combination with the box or body *A* of a box iron, whose inner face is corrugated, substantially as herein described, and for the purpose set forth.

**69,348.**—RUDOLPH KECK, Clintonville, N. Y.—*Treating Slags and Cinders for the Manufacture of Iron.*—October 1, 1867.—The slags and cinders of the iron furnace are pulverized, and the greater portion of the silicates and oxide of iron received in a separating furnace, after which the remainder is puddled and converted into wrought iron.

*Claim.*—The within described process of reducing slags and cinders directly into wrought iron by subjecting them, after they have been pulverized, to the action of a separating apparatus and reducing the residuum in a puddling furnace or blooming fire, as set forth.

**69,349.**—HENRY N. KING and AUSTIN Z. MASON, Adrian, Mich.—*Clothes Dryer.*—October 1, 1867.—The four bents are connected by slats, and are expanded for use and collapsed for stowage.

*Claim.*—The construction and use of the four bents *a e*, *b f*, *c g*, and *d h*, the four slats *S S S S*, and the brace *B*, the whole constructed and operating substantially in the manner and for the purpose set forth.

**69,350.**—S. D. LITTLEFIELD, Burlington, Wis., assignor to himself and HORATIO D. KNIGHT, same place.—*Axle.*—October 1, 1867.—The flanged collars are attached on the skeins to arrest the entrance of grit.

*Claim.*—First, the beveled flanges *e e'*, for covering the collar *E* and the nut *D*, and protecting them from grit and sand, substantially as specified.

Second, the projections or lugs *x x'*, for stationing the collars *d d* temporarily upon the skein, substantially as set forth.

**69,351.**—GEORGE H. LOMAX, Somerville, Mass., assignor to himself and RICHARD D. BLIM, Lexington, Mass.—*Poultry Drinking Fountain.*—October 1, 1867.—As soon as the water falls below the level of the top of the orifice, the air entering the reservoir enforces the passage of the water to the trough till the orifice is again covered.

*Claim.*—The combination and arrangement of the filling opening *e* and the recess *d*, with the reservoir *B* and the trough *A*, such reservoir being provided with a discharge opening *b*, arranged as specified.

Also, the construction of the poultry drinking fountain with flat top to the reservoir, in combination with the filling orifice *e*, or the same and the recess *d*, arranged in its bottom, as set forth.

**69,352.**—JOHN LOVE, Lebanon Ind.—*Clod Fender.*—October 1, 1867.—The fender wards off the clods from the hills while the fine earth passes between the bars.

*Claim.*—The device herein described, when the same is constructed in its said several parts in manner and form as aforesaid, and used for the purpose and in the manner and form substantially as set forth.

**69,353.**—JOSHUA M. MANSFIELD, Watertown, N. Y.—*Horse Hay Fork.*—October 1, 1867.—The point is bisected axially. The sections are hinged to the ease and connected to the central sliding bar to which the hoisting cord is attached. The bar is depressed to throw out the sections of the point, and is kept down by a spring pin which enters a cavity in it. The prong and the hay are released by retraction of the pin.



*Claim.*—First, the separately pivoted curved links C, in combination with the sliding bar D, and hinged tines B B, arranged and operating substantially as and for the purpose described.

Second, the eccentrically pivoted cam lever F, in combination with the spring catch E e and rope G, arranged and operating substantially as and for the purpose specified.

Third, the arrangement of the arm A' a, rope G, and cam lever F, substantially as set forth.

**69,354.**—JAMES McDUFFIE, Heller's Corners, Ind.—*Wagon Spring.*—October 1, 1867.—The steel spring is secured to the under side of the supporter and to bolsters below. The loops below elevate the spring, and the gibs and keys that attach the spring to the supporter give it tension.

*Claim.*—The spring A, in combination with the gibs and keys B, and the bar C, said springs and bar being constructed in the manner and for the purposes herein described and set forth.

**69,355.**—MATTHIAS MEAD, Lowell, Mass.—*Cooking Stoves.*—October 1, 1867.—The air is heated in flues that pass around the furnace, and diving below, ascends through the perforated bottom plate of the oven.

*Claim.*—The arrangement of the ducts f f, for conveying heated air through the bottom of the oven and distributing it through the discharge pipes g g, substantially for the purpose described and set forth.

**69,356.**—CHRISTIAN K. MELLINGER, Millersville, Pa.—*Carriage Pole.*—October 1, 1867.—The adjustable shackle plates are attached to the bow by set screws that engage in the elongated slots regulating the attachment to the spread of the clips.

*Claim.*—The plate A, with its slots b and eye a, forming the adjustable shackle for carriage poles, when arranged, constructed, and applied in the manner and for the purpose specified.

**69,357.**—JOS. H. MOORE, Chicago, Ill.—*Ventilator for Railroad Cars.*—October 1, 1867.—The paddles on the rotating shaft dip into a water bath at the bottom of the ventilator when actuated by the draft on the fans. The dust in the entering air is collected in the water.

*Claim.*—First, the shaft C, when provided with rods or dashers a a, attached spirally, as described, in combination with wind fans D, located inside of the casing, substantially as and for the purposes described.

Second, the shaft C, provided with the rods a a and fans D, located and operating as described, in combination with the doors G and bath B, substantially as specified.

Third, the perforated diaphragm or partition E, in combination with the shaft C, provided with rods or dashers a a and water bath B, the whole constructed and operating substantially as specified.

**69,358.**—MONROE and CHARLES H. MORSE, Franklin, Mass.—*Machine for Pressing Hats.*—October 1, 1867.—Steam is passed through the tubular journals into the chest. The various molds are brought in connection with the block by rotation of the chest.

*Claim.*—A series of dies or molds, combined with a movable or revolving steam chest to heat the same, so that by the movement of the steam chest either of said molds may be brought to the proper place to cooperate with the other parts of the machine without disconnecting the molds from the steam chest, substantially as described.

**69,359.**—HENRY W. MOSHER, Aurora, Ill., assignor to himself and EDWARD C. DUDLEY, same place.—*Cut-off for Water Spouts.*—October 1, 1867.—The cistern pipe and waste-water pipe are coupled alongside, and the connecting link is deflected to one or the other in accordance with the requirement of the cistern.

*Claim.*—First, the shifting pipe B and the flange or collar c of the horizontal, pivoted plate C, arranged in relation to the conducting spout A, in such manner that the lower end of the shifting pipe may be moved horizontally in the arc of a circle, substantially as described.

Second, the combination of the fixed base plate D, having two openings, with the horizontal pivoted plate C which carries the shifting pipe, when constructed and arranged so that the surfaces of these two plates shall remain in contact while changing the pivoted plate from the cistern pipe to the escape opening, and vice versa, substantially as described.

Third, the shifting pipe B, sustained so that it will maintain its proper connection with the conducting spout A, and the pivoted flanged plate C by means of an annular seat b on the lower end thereof, and the fixed ears or projections a a on the fixed conducting spout, as herein described.

Fourth, the pivoted flanged plate C, provided with an annular groove s in the bottom thereof, in such manner as to maintain the relation with the influx opening of the base plate, as herein described and for the purpose set forth.

Fifth, the filter G, seated in the influx opening of the base plate D, the shifting pipe B, and the pivoted plate C, all arranged substantially as herein described.

**69,360.**—JOHN MUMMA, Middletown, Ohio.—*Water Wheels.*—October 1, 1867; antedated September 23, 1867.—The cylindrical gate is adjusted to admit the desired quantity of water, and the gate is submerged to the required extent by the action of the rigid suspending rolls. The water flows through the screen guard, fills the space over the disk, and by rotating the shaft elevates the spider, causing the ball gates to be raised from their seats on the mouths of the chutes. The chutes being open and the flow graduated as required by the elevation of the ball gates the water is deflected by the inclined chutes against the inclined buckets of the turbine wheel.

*Claim.*—First, the elongated concave buckets S, terminating at their upper ends with the cap V, constructed, arranged, and operating in the manner and for the purpose described.

Second, the floating cylindrical gate C, in combination with the floats m, lever B, and rods D, arranged and operating substantially as described.

Third, the cylindrical rack or screen H, in combination with chutes d and gate C, arranged as described for the purpose specified.

Fourth, the combination of the ball gates a with chutes d, operating substantially as specified for the purpose set forth.

Fifth, the rings h h, arms i, chains b, guide rods f, and roller E, arranged in relation to the ball gates a, all substantially as and for the purpose specified.

Sixth, the chute disk I, with its packing ring r, in combination with chutes d and annular diaphragm K, arranged above the wheel and its curb J, all constructed and operating substantially as and for the purposes described.

**69,361.**—J. HOWARD MURRAY, Trenton, N. J., assignor to himself, T. S. MURRAY, and A. JAMESON.—*Vise.*—October 1, 1867.—The front jaw has a hollow arm that fits snugly but slides freely in the rear jaw. The nut that secures the screw is removable when the set screw is withdrawn.

*Claim.*—The stationary jaw of the vise, with its shoulders s s', in combination with the screw D and nut E, the whole being constructed as and for the purpose described.

**69,362.**—WEBSTER NEVINS, Falmonth, Me.—*Axle.*—October 1, 1867.—The rock bolster is pivoted to the metallic bar that is connected to the axle by a king bolt.

*Claim.*—First, the combination of the part d, ears e e', joints f, and metallic rocker plate b, as and for the purposes hereinbefore described.

Second, the combination of the metallic rocker plate b, with its bolt c, worked into and forming a part of said rocker plate, with the forward axle a, substantially as and for the purposes described.

**69,363.**—MARIA A. OBER, Chazy, N. Y.—*Churn Dasher.*—October 1, 1867.—The ends of the cream-whipping wires are soldered between narrow strips of doubled tin which are attached to the arms of the dasher.

*Claim.*—A churn dasher, constructed as shown and described.



**69,364.**—CHARLES PARKER and WILLIAM VOLLER, Canterbury, N. H.—*Carriage Step*.—October 1, 1867.—The vibrating steps are actuated by their connection with the axle to recede from either wheel as it approaches.

*Claim.*—First, a vibrating carriage step, operated by mechanism, connected with the forward axle, substantially as described.

Second, the vibrating step *a*, in combination with the fan-shaped arm *d*, levers *b b'*, and cross-bar *c*, substantially as described.

Third, the step *a*, provided with fan-shaped arm *d*, substantially as described.

**69,365.**—MARSHALL PERRY, New York, N. Y., assignor to himself and GEO. W. GREGORY, Watertown, N. Y.—*Loose Joint Butt Hinge*.—October 1, 1867.—The leaf that engages on the pintle has a socket on each side to enable its adjustment for a right or left hand hinge.

*Claim.*—A right or left-hand hinge, composed of two plates, one having a single pintle-carrying knuckle, and the other having two socketed pintle-receiving knuckles, one projecting from the top and the other from the bottom of said plate, but at opposite edges, substantially as and for the purpose set forth.

**69,366.**—THOMAS RASER, Genesee, Ill.—*Bed Bottom*.—October 1, 1867.—The bearers that support the slats are suspended by rubber bands.

*Claim.*—The boxing or castings *C* and poles *B B*, in combination with the rubber bands and slats *D* and *E*, as described.

**69,367.**—CHARLES H. RENO, Barrington, N. Y.—*Device for Heating Tires*.—October 1, 1867.—The induction pipe furnishes a draft from the bellows to the central chamber and through the hollow radial arms and segmental tubes to the circular fire that heats the tire.

*Claim.*—The chamber *A*, pipes *C* and *D*, and branch pipe *E*, when made and used as and for the purpose herein specified.

**69,368.**—GEORGE W. SANDERS, Springfield, Vt.—*Mop Head*.—October 1, 1867.—The vertical cam screw is turned, to close or release the upper jaw.

*Claim.*—The screw cam *e* and slide *d*, or its equivalent, in combination with the jaw *c*, constructed and operating substantially in the manner described and for the purpose specified.

**69,369.**—HENRY and JAMES M. SAUNDERS, Oxford, Ohio.—*Hitching Device for Whiffletrees*.—October 1, 1867.—The traces are hitched over the rear guards of the stops, and secured by the spring bolts behind.

*Claim.*—The application to the whiffletree *A* of the arms or stops *B*, the cases *D*, with the spring bolts *C* incased therein, with the cords *e*, and pulleys *d*, when the same are arranged to operate as herein shown and described.

**69,370.**—A. M. SAWYER, Athol, Mass.—*Machine for Preparing Peat for Fuel*.—October 1, 1867.—A horizontal endless apron of canvas receives the peat from the grinder and carries it between a pair of squeezing rollers, which remove a portion of the water. A scraper keeps the apron clean. The followers of the molds are operated by cams, as the mold wheel revolves.

*Claim.*—First, the combination of an apparatus for grinding or disintegrating the peat, the endless apron *b* and the squeezing rollers *C* and *C'*, arranged substantially as described.

Second, the combination of the endless apron *b*, the squeezing rollers *C* and *C'*, and the scraper *F*, substantially as described.

Third, the scrapers *h h*, within the hopper *R*, in combination with the series of molds, substantially as described.

Fourth, arranging the cams that work the pistons in and out so as to be adjustable, as described, so that the movement of the pistons in the direction of the diameter of the mold wheel may be varied, and thereby the compressing capacity of the mold be increased or diminished, substantially as described.

**69,371.**—JULIUS SHELDON, New York, N. Y.—*Hat-Blocking Machine*.—October 1, 1867.—To obviate the uneven stretching of the periphery by the expansible bars, an elastic india-rubber cap is placed over the ends of these bars, forming a continuous circumference and preventing the felt drawing in between the bars, which would give a corrugated shape to the edge.

*Claim.*—In combination with a hat-stretching or blocking machine, the continuous rubber cap *a*, applied substantially as and for the purpose set forth.

**69,372.**—GEORGE P. SISSON, Florence, Mass.—*Flask for Casting*.—October 1, 1867.—The metallic bands form the corresponding edges of the snap flask, and, projecting in, form a shoulder for the retention of the sand.

*Claim.*—The bands *G* and *H*, or either of them, in combination with a snap flask, and arranged to operate therewith, substantially in the manner and for the purpose herein specified.

**69,373.**—LE ROY M. TAYLOR and W. D. FOWLER, Washington, D. C.—*Journal Box*.—October 1, 1867.—The two parts of the journal box are hinged together, and have a turn-button and latch for holding the free end of the cap in place.

*Claim.*—The manner herein described of constructing the box *A B* in two halves, with the hinge *a e*, and the turning pin *d*, and locking devices *g h*, the said construction admitting of a ready removal of the shaft, as well as giving ready access thereto, all as set forth.

**69,374.**—JOHN S. THORNTON, Port Gibson, N. Y.—*Windmill*.—October 1, 1867.—The fans are placed at different angles on their shafts, and their positions are so governed that three of them are always effective. As they successively occupy certain positions relatively to the wheel, they assume the same angle of presentation.

*Claim.*—First, the fan wheels *E E*, fans *C C*, and arms *D D*, constructed and combined substantially as and for the purpose set forth.

Second, the fan *G*, in combination with fans *C C*, arranged in relation to each other, substantially in the manner and for the purpose specified.

Third, the shaft *H*, combined and arranged with wheels *F F* and *E E*, substantially as and for the purpose described.

**69,375.**—ISAAC VAN VOORHIS, Hillsboro, Pa.—*Hay Derrick*.—October 1, 1867.—The standard is adjustable to the height required, and is secured by bands and set screws. The hinged arms are connected by a rope that engages over the pulley above. One arm is drawn down as the other is elevated with the load.

*Claim.*—A portable self-balancing derrick, consisting of one or more upright posts, with arms hinged on opposite sides, such arms connected with each other in the manner described, and the whole operating substantially as and for the purposes above set forth.

**69,376.**—B. F. WALTON, Philadelphia, Pa.—*Mattress*.—October 1, 1867.—The curled-hair cushion has a body of red cedar shavings in the middle to repel insects and to lessen the cost of manufacture.

*Claim.*—A mattress or cushion containing curled hair or other equivalent elastic stuffing material, combined with shavings or chips of cedar, for the purpose specified.

**69,377.**—ISAAC P. WENDELL, Philadelphia, Pa.—*Car-Brake Shoe*.—October 1, 1867.—The face of the brake block has imbedded blocks of wood and rubber. The block is pivoted to its supporting stock and secured by sockets and a transverse key.

*Claim.*—First, the combination with a cast-iron brake shoe for railroad cars, of pieces of wood, india-rubber, or other suitable material, softer than the iron, substantially in the manner hereinbefore described and for the purpose above specified.

Second, the combination of the shoe *A* and stock *D*, by means of the groove *e*, tongue *f*, and cross key *E*, substantially in the manner described and for the purpose set forth.

Third, the combination of the lug *i* and arm *k* with



the keys E and E', substantially as described and for the purpose specified.

**69,378.**—E. H. WILLIAMS, Grand Meadow, Iowa, and D. R. W. WILLIAMS, Werner, Wis.—*Excavating Machine*.—October 1, 1867.—As the plow casts the furrow the bands raise it to the slide, which conveys it to the box. When the box is filled, the lever being elevated throws the earth from the bands, and the load is driven off and dumped.

*Claim.*—First, the construction and arrangement in an excavator of the pressure belt V, when the same is driven by friction caused by the ascending furrow slice, in the manner and for the purpose herein described.

Second, the construction and arrangement of the two shafts S S, with their pulleys, in combination with the pressure belt V, as herein described.

Third, the combination of the tightening pulley L', frame L, and pressure belt V, in the manner and for the purpose herein set forth.

**69,379.**—A. H. WIRZ, Philadelphia, Pa.—*Pill Machine*.—October 1, 1867.—The metallic frame obviates the difficulties arising from shrinkage incident to wood.

*Claim.*—So constructing the metallic or enclosing frame of pill machines that the central wooden part thereof shall be attached or fixed to only the end pieces of such frame, so that the sides thereof, which form the bearings or ways of the movable part of the machine, will be disconnected from such central part, and will not be deflected or changed in parallelism by the shrinking of the central wooden part, for the purposes set forth.

**69,380.**—EDWARD WRIGHT, Worcester, Mass.—*Picker for Looms*.—October 1, 1867; antedated September 16, 1867.—The shell containing the filling which forms the face of the picker clasps and surrounds the staff, and is held in place by the spring that compensates the wear of the material.

*Claim.*—The combination of the metal shell C, filling D, and spring E, or its equivalent, with the top of the picker staff A, substantially as and for the purposes set forth.

**69,381.**—HENRY L. and EDWARD J. ZAHM, Lancaster, Pa.—*Watch Regulator*.—October 1, 1867.—By turning the screw delicate adjustment is given to the arm of the regulator, whose outer end has a finger resting on the graduated scale.

*Claim.*—The regulator A, having an angular base resting on the operating screw D, substantially as described.

**69,382.**—WILLIAM C. ABBOTT, Niles, N. Y.—*Treadle for Propelling Machinery*.—October 1, 1867.—The free ends of the treadles are connected by belts to a roller so that the reciprocations of the treadles cause the oscillation of a crank upon the roller shaft, and this may be connected to a shorter crank to cause rotation of the latter.

*Claim.*—The combination of the treadles L M, the straps O P, the roller Q, and crank R, when said parts are constructed and arranged in relation to one another, substantially as set forth.

**69,383.**—MOSES L. ANDREW, Cincinnati, Ohio.—*Rotary Engine*.—October 1, 1867.—The piston ends admit of radial movement in the wings, and are thrust out by springs to keep them packed to the cylinder and to each other. A plate at one end of the cylinder is kept in contact with the pistons by set screws and springs. To compensate for wear on one side of the journal of the shaft, the boxes are made conical on the outside and held to place by a nut on their smaller end, so as, by slacking up and partial rotation, to bring a fresh part to bear.

*Claim.*—First, the combination and arrangement of the lipped and chambered wings D D', grooved segmental pistons E, and springs F, for the purpose set forth.

Second, the combination of the set screws H and springs I, whereby to hold the follower G to the end of the piston C, with a variable and elastic pressure.

Third, the arrangement of the conical boxes M, bearings N, and pinch nuts O, for the purpose set forth.

**69,384.**—WM. D. ANDREWS, New York, N. Y.—*Hoisting Apparatus*.—October 1, 1867.—The adjustable gearing to the windlass is arranged to gain either speed or power in accordance to the weight required to be hoisted.

*Claim.*—The use of two plain or grooved friction wheels of different diameters upon one shaft, when the same are operated and driven by two similar friction wheels of different diameters on one driving shaft placed nearly parallel thereto, and so arranged that the speed and power may be varied by bringing into contact the larger wheel and smaller pinion, or the smaller wheel and larger pinion, by means of the eccentric bearing, as shown and described, or other equivalent device, for the purpose and object as stated.

**69,385.**—FREDERICK ASHLEY, New York, N. Y.—*Letter File*.—October 1, 1867; antedated June 1, 1867.—The upper section of the hook covers the pivoted lower section while at rest, and turning with the thumb plate opens the file.

*Claim.*—Securing the upper portion C of the hook or thumb plate b, to which it is attached by a pivot c, to the frame A, for operation, in combination with a spring e, to admit of the lateral play of said portion C, relatively to the lower portion B of the hook through a slot or opening f in the former, substantially as specified.

**69,386.**—M. BAKER, Humphrey, N. Y.—*Elliptic Spring Brace*.—October 1, 1867.—The braces are connected on a pivoted wheel that accommodates its action to the irregular pressure on the springs.

*Claim.*—The arrangement of the brace rods C D, their outer ends secured to the center of the lower part of the springs A B, their inner ends pivoted to the vertical wheel E, pivoted to the bottom of the wagon box, as herein described for the purpose specified.

**69,387.**—TURNER BARNES, Greensburg, Ind.—*Hand Spinning Machine*.—October 1, 1867.—The wool spindle is carried on an oscillating head of a swinging arm, which is swung out by a treadle to draw the roll. The head is arranged to turn so as to preserve the spindle at the same angle to the operator.

*Claim.*—First, the arrangement of spindle J, maintained in a given direction or bearing within the movable arm H, by means of sliding rod 1 and pitman 2 3 and stem I.

Second, in combination with elements of claim first the arm H, adapted for being advanced and retracted by weight x and treadle Y, and their described or equivalent accessories, substantially as set forth.

**69,388.**—GEORGE C. BARNEY, Philadelphia, Pa.—*Eraser and Letter Opener*.—October 1, 1867.—The steel blade has two curvilinear-shaped edges intersecting each other at one end of the blade, making a claw-pointed concave cutter on one side for opening letters, and a converse eraser on the other.

*Claim.*—The blade B, having convex and concave sharpened or cutting edges intersecting in a sharpened point, substantially as described, forming a combined eraser and letter opener.

**69,389.**—JAMES E. BEARDSLEY, AUGUSTUS F. BOYLE, ENOCH M. LEWIS, and MICHAEL A. CLANCY, Washington, D. C.—*Apparatus for Recording Votes*.—October 1, 1867.—The metallic disks have circular series of numbered sections and are placed in a conspicuous place in the hall. One disk records the ayes and the other the noes. Wires pass from each apparatus to the desk of each voter, who thereby indicates his vote, which is printed on a paper passing around rollers inside. Cannot be briefly described.

*Claim.*—First, the arrangement of the bars P with jacket and type z, bars O, with indicators X, connected to bars P by the short bar s<sup>3</sup>, rods b', and springs with angular bars b, when used with the disks C and D, and lever N, in the manner and for the purposes herein specified.

Second, the dial plate A, with its flange A' and hands 1 2, when arranged in combination with the drum E, as constructed in the manner and for the purposes herein set forth.

Third, the metallic disk C with its springs W W and slots, and provided with the radiating flat springs



R on its back, in the manner and for the purposes specified.

Fourth, the disk B, provided with its narrow paired slots *y y*, for guiding the U-shaped bars O and plate F, as constructed and arranged as set forth.

Fifth, the circular disk G, with point *i*, pin *m*, and spring *j* on its rear face, and with bar *h*, spring *h'*, pin *r*<sup>2</sup>, and pin 9 on the front face, in combination with the hollow shaft *f*<sup>2</sup> and ratchet *k*, as and for the purposes herein fully described.

Sixth, the arrangement of the clutch K with cones *q* and pawls *o o*, in combination with the ratchets *p p'*, spring shaft and spring H, plates *m*<sup>1</sup> *m*<sup>2</sup>, and cogs *s s'*, in the manner substantially as and for the purposes herein specified.

Seventh, the drum E, with its rollers *f f*, band *g*, and double catch *d*<sup>2</sup>, when arranged and used in the manner and for the purposes herein specified.

Eighth, the disks A B C D and G, with drum E, when constructed as specified with the voting devices and gearing for taking, counting, and printing the voters' names, in the manner and by the operation substantially as herein fully set forth.

**69,390.**—WM. F. BEARNS, Mount Pleasant, N. Y.—*Apparatus for Filtering and Purifying Spirits.*—October 1, 1867; antedated September 19, 1867.—The liquor from a vessel above flows into the lower part of the filter, and passes up through the filtering compound contained between two perforated diaphragms. The upper diaphragm is made in sections so as to be removable.

*Claim.*—First, the rectifying vessel *h* provided with the over-flow pipe *p*, supply pipe *e'*, perforated false bottom *m*, and perforated head *n*, between which the filtering material is retained, as and for the purposes set forth.

Second, the perforated head *n*, formed with the movable sections 1 and 2, held in place by the cross-bar *i* fitted in the manner and for the purposes set forth.

**69,391.**—E. O. BENNETT, Mt. Pleasant, Iowa.—*Churn.*—October 1, 1867.—The wings are attached to an inclined shaft giving them a reactionary projectile force on the cream. The perforated diaphragm on one side increases the friction.

*Claim.*—The combination of the floats G G, the inclined shaft F, the perforated diaphragm H, with the driving machinery of a rotary churn dasher, substantially as described.

**69,392.**—C. W. BLACKMAN, Bridgeport, Conn.—*Hen's Nest.*—The entrance of the hen places the doors in such position as to prevent the entrance of another hen, but to allow her own exit.

*Claim.*—A nest for hens composed of a box A, provided with two doors B B, hung on pivots *c c* and constructed each of two parts *b b'* at right angles with each other, and connected by cross-rods C C, all arranged to operate in the manner substantially as shown and described.

**69,393.**—CHARLES E. BLAKE, San Francisco, California.—*Tooth Powder Lozenge.*—October 1, 1867.—Composed of chalk or charcoal, ratany bark and soap, sugar, licorice, finely powdered cuttle-fish bone, and gum arabic.

*Claim.*—The making of tooth powder in the form of lozenges.

**69,394.**—SAMUEL S. BLISS, New Bedford, Mass.—*Attaching Thills to Carriages.*—October 1, 1867.—The conical projections on the side plates of the thill have a pivoted connection with the clip iron.

*Claim.*—First, securing the side irons B B when the same are constructed with solid conical bearings or centers F F to the thill A by means of clamp bolts D D, or in any equivalent manner, substantially as described.

Second, the combination of the thill A, side irons B B, having solid conical bearings F F and clip iron C with its conical socket or seats E E, when the same are constructed, arranged, and operated substantially as described and for the purposes set forth.

**69,395.**—CHARLES K. BRADFIELD, Linnfield, Mass.—*Lasting Awl.*—October 1, 1867.—The eye-

pointed awl carries its thread and is fed from a pivoted spool concealed within its hollow handle.

*Claim.*—Combining with the stock or handle *a* an eye-pointed awl *b*, substantially as shown and described.

Also, in combination with such stock and eye-pointed awl, the spool chamber within the handle, substantially as set forth.

**69,396.**—ROBERT BRAYTON and SAMUEL CURTIS, Fremont, Ohio.—*Respirator.*—October 1, 1867.—The sponge containing the matter to be inhaled is placed over a foraminous plate in a box, which has an opening to the air below the plate, and a pipe leading to the valve chamber above the plate. The valve chamber has tubes communicating with the mouth and nostrils, and valves allowing induction from the box, and ejection to the open air.

*Claim.*—First, the nostril tubes *b b*, chamber F and mouth-piece *c*, in combination with the tubes *a a'* and valves *d d'*, substantially as and for the purpose set forth.

Second, the box A and tube E, in combination with the air chamber F, substantially as set forth.

Third, a respirator so constructed that it may be connected to either the mouth or nose, and so provided with inhaling and exhaling pipes and valves that in breathing the valves will alternately open and close, when used in the manner and for the purposes substantially as set forth.

**69,397.**—RICHARD F. BRIGGS, Amesbury, Mass.—*Folding Seat for Carriage Bodies.*—October 1, 1867.—The fore end of the additional seat is hinged by bars to the frame, and it is so arranged as to form a seat in front of the other one or to lie in a recess beneath it.

*Claim.*—The combination and arrangement of the support *b*, slotted friction plate *d* and slotted upright support *c*, substantially as described for the purpose herein set forth.

**69,398.**—R. G. BRITTON, Springfield, Vt.—*Clothes Pin.*—October 1, 1867.—The curved projections of the jaws have a tongue and groove joint that is pivoted in the middle. They are closed in front by the projectile force of the spiral spring.

*Claim.*—A clothes pin, formed of the two wooden pieces A B, united by the pin *b* through the grooved circular projection *a* and the tongue *c*, and provided with a spiral *h* between the ends *e' e'* to close the ends *e e*, arranged and operating as described.

**69,399.**—WM. BROWN, Hoboken, N. J.—*Ratchet Brace.*—October 1, 1867.—The spherical ratchet is operated by a stock and pawl, whereby it is turned with the handle at any required angle to the spindle of the brace.

*Claim.*—The spherical ratchet A, in combination with the socket *c* and pawl *g*, substantially as described.

**69,400.**—WILLIAM GREEN, Holly, Mich.—*Lifting Jack.*—October 1, 1867.—The lever bears on the dogs that engage in the sides of the ratchet bar. The front and side dogs alternately hold while the lever is elevated.

*Claim.*—First, the combination of the lever L, upright post A, grooves *e e* lip *e'* and guides *v v*, with the dogs *b b'*, each having the short projecting tooth *i*, and arranged and operating substantially as and for the purpose described.

Second, the lifting jack above described, consisting of the post A, having the series of teeth *a a'*, the grooves *e e*, lip *e'* and guides *v v*, in combination with the lever L, having the dogs *b b'* held in place by the springs *s s'*, and provided with the teeth *i i*, all the parts being constructed, arranged and combined substantially in the manner and for the purpose specified.

**69,401.**—GEORGE BUSHNELL, SCHODACK, N. Y.—*Bellows.*—October 1, 1867; antedated September 26, 1867.—A series of bellows is arranged between two disks. Motion is imparted to the lower disk by means of a rotating wheel and the connecting rod, by which the several bellows are alternately distended and compressed.

*Claim.*—First, the combination of the several



smaller bellows with the rod L, operating substantially in the manner hereinbefore described.

Second, the combination of the bellows E with the chamber F, valve O and lever P, as hereinbefore set forth and described.

**69,402.**—EDWARD M. BUTLER, Croton Falls, N. Y.—*Attaching Thills to Vehicles*.—October 1, 1867.—The center pin is composed of two sections, the one a stationary projection from one cheek, and the other a set screw that passes through the other cheek. Rubber springs are attached to prevent vibration.

*Claim.*—The rubber cushion I, or its equivalent, applied to the center pin of shaft couplings, substantially as and for the purpose described.

**69,403.**—JOHN G. BZZELL, Lynn, Mass.—*Carriage Wheel*.—October 1, 1867.—The wire spokes coil around a ring near their central attachment to give elasticity to the wheel.

*Claim.*—First, the swiveled spokes B', when crimped to give them elasticity with the coils b', substantially as herein shown and described.

Second, the single spokes B, their outer end swiveled to the rim C, and their ends screwing into the hub, and adapted to be turned to regulate the strain of the wheel, as herein set forth for the purposes specified.

Third, the single spokes B or B', their inner ends secured to the hub A out of the same horizontal lines with the coils b', as herein set forth for the purpose specified.

Fourth, the combination and arrangement of the removable ring D, coiled swiveled spokes B B', whereby the strain and elasticity of the wheel are adjusted, as herein set forth for the purpose specified.

**69,404.**—VOSCO M. CHAFFEE, Xenia, Ill.—*Wagon*.—October 1, 1857.—The tongue is hinged directly to the axle, against which it is also braced. The heavy metallic plate on the axle supplies the place of a sand board.

*Claim.*—First, hinging the tongue or shafts of a wagon or other vehicle to the front axle, so as to obtain a direct center draft, substantially as set forth.

Second, the combination of the tongue C, with a center hinge at G, and the side braces H attached, substantially as and for the purpose set forth.

Third, the plate F, forming the sand board, axle plate and reach receiver combined in one piece, substantially as described.

Fourth, the combination of the bolster A, plates E and F, reach D, brace I and king bolt K, substantially as set forth.

**69,405.**—CHARLES H. CHAPMAN, Shirley, Mass.—*Tag or Label*.—October 1, 1867.—The spring is entered through the perforated end of the double card, and is held by the riveted spangle attached to the tag.

*Claim.*—The spangle B, in combination with the string C C' and card A, made substantially as described and for the purpose set forth.

**69,406.**—GEORGE W. CLARK, Frankfort, Ohio.—*Device for Ringing Hogs*.—October 1, 1867.—The awl passes the wire through the hog's snout and the key twists and locks it therein.

*Claim.*—First, the within described apparatus, consisting of the awl or piercing instrument A B C and the key or twisting instrument E F G, constructed and operated substantially as and for the purpose set forth.

Second, the awl A B C, when provided with a groove b and socket b', substantially as and for the purpose explained.

Third, the key or twisting instrument E F G g and hook H, combined and operating in the manner and for the purpose explained.

**69,407.**—HENRY C. CLARK and ROBERT B. LITTLE, Providence, R. I.—*Coal Elevator and Distributor*.—October 1, 1867.—The bucket is suspended from a truck which travels on a track; the latter has a folding and braced extension by which it is projected over the hold of a boat, and the main track leads to a chute which may be rotated on its vertical axis to discharge the coal to any point within its range.

*Claim.*—First, a coal elevator which is arranged

substantially as herein shown and described, so that coal or other material can be raised from the hold of a vessel and discharged into any desired one of a number of temporary compartments or pockets and be discharged from the latter into cars or carts, ready for delivery to families, all without requiring any manual labor, except what is required for raising or lowering the necessary doors or traps, as set forth.

Second, the extension rails G, when hinged to the ends of the rails F, so that they can be folded out of the way, substantially as set forth.

Third, the adjustable bolsters o o, when arranged as set forth, for the purpose specified.

Fourth, the revolving trough J, when arranged in combination with the rails F F' of an elevator and with the chambers B B, substantially as herein shown and described.

Fifth, the revolving trough J, when provided with trap-doors p, substantially as and for the purpose herein shown and described.

Sixth, the device for regulating the discharge of the coal or other material from the pockets or chambers B, consisting of the screen or board a, in combination with the hinged plate d and with the cord e, all made and operating substantially as and for the purpose herein shown and described.

Seventh, the folding extension G, when made as set forth, arranged in relation with the adjustable bolsters o, stationary track F, and flexible revolving trough J, all made and operating substantially as and for the purpose herein shown and described.

**69,408.**—GEORGE P. CLARKE, New York, N. Y.—*Terrestrial Globe*.—October 1, 1867.—The globes are arranged in separate sections or zones, with illustrations of the animal, vegetable, and mineral kingdoms. They are exhibited in the frames to which they are attached by the pivoted trunnions and are steadied by the springs.

*Claim.*—First, the division of a sphere or globe into sections or zones, substantially as described and for the purposes set forth.

Second, the construction and application of the spring I, in combination with the spindle E E, the trunnions F F, and the center zone D, substantially as and for the purposes set forth.

**69,409.**—JOSEPH P. COOK, Rockville, Ind., assignor to himself and JOHN T. CAMPBELL, same place.—*Hand Reaper and Mower*.—October 1, 1867.—The sickles work in front of a bar to which the grain platform is attached. The operator rakes the cut grain from the platform with his left hand, while with the right hand he turns the wheel.

*Claim.*—A hand reaper, or one designed for manual operation, composed of a framing A having two reciprocating sickles F F attached and operated by eccentrics, or their equivalents, and suitable gearing, simultaneously in opposite directions, substantially as shown and described.

Also, the adjustable yoke B in the framing A, for the purpose specified.

**69,410.**—WILLIAM COOPER, Hancock, Md.—*Water Wheel*.—October 1, 1867.—By turning the shaft the plate is turned through the medium of the pinion and segment. The arms, in consequence of being connected with the gates, open them when the plate is moved in the required direction and shut them when moved in the opposite direction.

*Claim.*—First, the gates G operated through the medium of the circular plate I, pivoted arms H, and springs J, all arranged substantially as and for the purpose specified.

Second, the combination and arrangement of the slotted arms H, springs J, plate I, as and for the purpose specified.

**69,411.**—LEFFERT R. CORNELL, Flatbush, N. Y.—*Steam Superheater*.—October 1, 1867.—The barriers are constructed to oppose the passage of the steam, and the alternate arrangement of the pipe causes the fluid to strike against the sides and its particles to be deflected and separated.

*Claim.*—The superheater, constructed as described, consisting of the parallel cylinders A, divided into chambers B<sup>2</sup> by heads B and supported by means of the uprights A<sup>2</sup>, said chambers connected alternately by means of the curved pipes C, and connecting with



the parallel condensing pipes E, beneath each cylinder, by means of the short pipes D, as herein shown and set forth, for the purpose specified.

**69,412.**—JAMES C. COVERT, Townsendville, N. Y.—*Hold-back*.—October 1, 1867.—The metallic hold-back is attached with straps to the hames, and is formed of a V shape, to prevent the travelling of the ring of the neck yoke.

*Claim.*—The metallic hold-back, constructed as described, consisting of the V-shaped strap B attached at its angle by a ring c to the neck yoke and at its ends by the snap hooks b to the rings a of the harness, as herein shown and described.

**69,413.**—J. M. CURRAN and J. G. BAXTER, Washington, D. C.—*Metallic Hame Tug*.—October 1, 1867.—The metallic tug is attached by an eye to the hame, and terminates at the rear end in a buckle to attach the strap.

*Claim.*—A hame tug having its body A formed of a single strap of metal with the eye B, having the hinged or detachable piece b, and its rear end formed for attaching the buckle F, substantially as shown and described.

**69,414.**—T. M. DANIEL, Athens, Ga.—*Ague Medicine*.—October 1, 1867.—Composed of an infusion of stem, leaves, and bloom of "life everlasting,"  $\frac{1}{2}$  ounce; sage, 1 grain; spring water, 1 quart.

*Claim.*—A composition or medicine composed of the ingredients in about the proportions herein set forth and for the purpose specified.

**69,415.**—OTIS DEAN, Richmond, Va., assignor to ROBERT W. YOUNG, same place.—*Mucilage Pot*.—October 1, 1867.—The water tank forms a receptacle for the brush. The lid is attached to a rod which swings back with it and forms a wiper for the brush.

*Claim.*—First, the provision, in combination with the reservoir A for mucilage, varnish, or other material, of a brush receptacle D, to contain a suitable material to keep the brush moist, as explained.

Second, in combination with a pot for mucilage or other material, the bar F, for the purpose specified.

Third, the bar F applied to the lid, in the manner and for the purpose set forth.

**69,416.**—SPENCER B. DRIGGS, New York, N. Y.—*Dykes and Levees to Rivers*.—October 1, 1867.—Improvement on his patent, June 27, 1852. The earthen embankments are strengthened by cast iron angular and curved plates, which, slipping past each other, allow for expansion and contraction.

*Claim.*—First, the metallic wall or core, when arranged in a curved, corrugated, or zig-zag form, substantially as and for the purpose set forth.

Second, the metallic wall or core, constructed with lap joints at the junction of the plates to compensate for expansion and contraction, and arranged at an angle to the horizon in combination with the braces D, substantially as specified.

**69,417.**—FRANCIS ELLERHAUSEN, Ottawa, Canada.—*Manufacture of Cast Steel*.—October 1, 1867; antedated September 14, 1867.—The upper furnace has a hearth plate and forms a retort that is heated by charcoal, and by the lower furnace, which is heated to a high temperature. Combustion is maintained in both furnaces by blast pipes. After both furnaces are heated the molten carbonized iron is introduced into the upper furnace in quantity suitable for union with the wrought iron.

*Claim.*—First, the furnace above described, consisting of the retort B, hearth plate D, and lower fire chamber A, when the parts are constructed, combined, and arranged in the manner above set forth and for the purpose specified.

Second, the hearth plate D, in a furnace containing the retort B and fire chamber A, substantially as and for the purpose set forth.

Third, the process of obtaining cast steel directly from iron ore, or from iron ore in connection with wrought iron, substantially as above described.

**69,418.**—D. F. ELMER, Springfield, Mass.—*Index Gauge and Calipers*.—October 1, 1867.—The body to be measured is placed between the jaws, which are brought in contact with the opposite sides of the

body. The thirty-seconds of an inch are indicated by the jaw on the scale on the cylinder, and the hundredths of a thirty-second are indicated by the hand on the dial.

*Claim.*—First, the cylinder g, slotted and graduated as specified, in combination with the jaws a a', dial plate B, hand e, and bolt H, substantially as described.

Second, the combination of the graduated dial plate B with the cylinder g, in the manner and for the purpose set forth.

Third, the jaws a a', in combination with the slotted and graduated cylinder g and bolt H.

Fourth, the combination of the bolt H with the graduated cylinder g, as and for the purpose specified.

**69,419.**—THOMAS B. ESTEP, Cincinnati, Ohio.—*Coffin*.—October 1, 1867.—The rubber strips are cemented over the joints and are covered and secured by metallic strips.

*Claim.*—First, a coffin whose joints are hermetically closed by means of cemented rubber strips D, and sheet metal strips E, the same being applied and secured substantially as herein described and set forth.

Second, in combination with the rubber strips D and metal strips E, the angle iron D d', as and for the purpose explained.

**69,420.**—THOMAS B. ESTEP and WILLIAM C. HEFFERMAN, Cincinnati, Ohio, assignors to THOMAS B. ESTEP.—*Coffin*.—October 1, 1867.—The corrugated edges of the coffin are firmly engaged by the rubber packing in the groove round the lid.

*Claim.*—A coffin whose upper edges of the body A are provided with corrugations a, when used in connection with grooved lid B b, cleat C, and india-rubber gasket E, the whole being arranged and operating substantially as herein described and set forth.

**69,421.**—JAMES W. EVANS, New York, N. Y.—*Machine for Coiling Springs*.—October 1, 1867.—The wire is wound on a revolving mandrel, the end being held by a sliding sleeve and locking dog.—The wire is coiled upon the mandrel as it rotates by a spirally grooved cylinder. The coil is stripped from the mandrel by the longitudinal movement of the latter.

*Claim.*—First, the revolving mandrel I, made capable of a sliding motion in the direction of its length in combination with the spirally grooved roll K, and serving to detach the spring when formed essentially as herein set forth.

Second, in combination with the sliding and revolving mandrel I, the gripping dog b, and spiral guiding collar d, for operation on the wire of which the spring is formed, substantially as specified.

Third, the sliding and revolving mandrel I, with its locking dog b and band wheel or its equivalent II, in combination with the spirally grooved rotating roll K, having formed in it a recess or notch s, essentially as herein set forth.

**69,422.**—DAVID K. FRETZ, Cono, Iowa.—*Loom*.—October 1, 1867.—A flat spring on the under side of the lower rail of the lay operates the pickers when they are released from the catches on the shuttle race near the swords of the lay.

*Claim.*—The combination and arrangement of the spring P, and hinge Z, with the lay and picker staff, substantially as described.

**69,423.**—HENRY GETTY, Brooklyn, N. Y.—*Air Pump*.—October 1, 1867.—The gauge, in connection with the cylinder, indicates the pressure of air generated by the pump so as to discover a leak by the fall of the indicator.

*Claim.*—The gauge K L M, cup O P, coupling I, having recess Q, all arranged to operate in connection with an air pump, as herein shown and described.

**69,424.**—ELISHA GRAY, Oberlin, Ohio.—*Telegraph Apparatus*.—October 1, 1867.—The self-adjusting relay is introduced in order to obviate the difficulty arising from the variation in the force of the residual magnetism, which requires corresponding variation in the strength of the recoil spring of the armature.



*Claim.*—First, the commutator or pole changer relay and key, arranged to operate conjointly with the main and local circuits so that the operator at any point on the line can reverse the current over the same from the main battery, in the manner substantially as set forth.

Second, the peculiar construction of the commutator when arranged with the line and local circuits for the purpose of obtaining the attraction and repulsion of the direct and reverse currents by means substantially as specified.

Third, the commutator with an electro-magnet or vibrating core armature so arranged that its poles are between the poles of the electro-magnets, and so connected with the line and local circuits that when both are closed one magnet is attracting the armature and the other is repelling, in the manner substantially as described.

Fourth, the arrangement of the magnet J, electro-magnets C D, lever H, and spring K, combined and operating conjointly in the manner and for the purpose substantially as set forth.

**69,425.**—L. C. FISHER and A. D. HOLLIDAY, El Paso, Ill.—*Weighing Attachment to Faucets.*—October 1, 1867.—The vessel is placed upon the platform which is suspended by rods. As the liquid flows into the vessel the bar is drawn down, the springs depressed, and the weight is indicated on the scale.

*Claim.*—The bar L, with clutch D, plate E, bars H and F, rods *c c*, with springs G G, and plate A, the various parts constructed and operating in the manner substantially as and for the purposes set forth.

**69,426.**—JONATHAN HALEY, Cambridge, Mass.—*Glassware Press.*—October 1, 1867.—The movable plunger and movable bed are connected to cranks which are in horizontal position when the bed and plunger are at their greatest distance apart. Rotation of the crank-shaft draws them towards each other with a gradually decreasing speed and increasing power.

*Claim.*—A press organized substantially as described, so that the bed and plunger have simultaneous movements relative to each other in approaching and receding.

Also, the combination as arranged of the cranks, connecting rods, movable bed, and plunger-carrying cross-head for the purpose specified.

**69,427.**—J. A. HARMANN, New York, N. Y.—*Watch.*—October 1, 1867.—The watch key screws into the pendant of the watch, the swiveled pusher pin passing through and beyond the key and rotating therewith as the key is screwed in or out.

*Claim.*—First, the key C, constructed as described and adapted to screw into the pendant E, substantially as described for the purpose specified.

Second, the construction and arrangement of the pendant B, spindle F, and hollow screw key C, as herein set forth for the purpose specified.

**69,428.**—EDWARD HARRISON, Springfield, Ohio.—*Beehive.*—October 1, 1867.—The feed is placed in the upper portion of a cup and oozes through the strainer, from which it is gathered by the bees below; the bees pass through the open bottom and the feed is renewed above.

*Claim.*—First, the open-bottomed cup A, in combination with a removable strainer D, substantially as and for the purpose set forth.

Second, in combination with the open-bottomed cup A, the ring B, for the purpose of readily applying or removing the strainer D, substantially as and for the purpose set forth and described.

Third, a bee-feeding apparatus which can be filled through the top, and from which the feed can only be obtained through the bottom, so that it may be placed to cover an orifice in the top of the hive and the bees enabled to feed while observing their natural inclination to cluster together, and so that it may be replenished with feed without removal or disturbance of the bees, as set forth.

**69,429.**—JAMES G. HAYMAKER, Salem Cross Roads, Pa.—*Horse Collar.*—October 1, 1867.—The respective lower ends of the collar have studs and spring catches by which the parts are locked together.

*Claim.*—First, the catch B, secured to plate D, on one end of the collar and spring *b'*, in the opposite end, with or without the pin or entering piece C and hole C', applied to the lower portions of a divided horse collar and locking them together, substantially as described.

Second, the pin or entering piece C and hole C', with or without the catch B, and spring *b'*, applied in like manner and for like purpose, substantially as described.

**69,430.**—GEORGE HEESEN, Tecumseh, Mich.—*Chair Seat.*—October 1, 1867.—The paper twine is substituted for rushes or flags and is wound upon the seat frame in the usual manner.

*Claim.*—As an improved article of manufacture a chair seat formed or constructed of paper twine, substantially as set forth.

**69,431.**—JOHN H. HENDRICK, Clinton, Ill., assignor to himself and JAMES O. DONALD.—*Beehive.*—October 1, 1867.—The transverse bars of the suspended comb frames in the brood section of the hive are perforated for the passage of bees; the suspended comb frames in the upper section are adapted for holding surplus store.

*Claim.*—First, the comb frames E E', with their cross-bars *f f'*, perforated as and for the purpose described, in combination with the lower division A of the hive, and the door C and its adjuncts, substantially as set forth.

Second, the surplus honey boxes or drawers H, constructed substantially as and for the purpose set forth.

Third, the combination of the surplus honey boxes H, when constructed and arranged substantially as described, with the upper division F.

**69,432.**—JAMES W. HENRY, Peatonica, Ill.—*Hay Raker and Loader.*—October 1, 1867.—The hay is collected by the teeth, is carried up between the slatted, endless aprons and the rods, and discharged at the termination of the latter. The upper section of the frame may be inclined, its position being sustained by segment racks and pawls.

*Claim.*—The upper and lower frames composed of the uprights E E and D D, with their endless aprons and shafts and drums, arranged with the rake L and rods M M, in such a manner that hay is carried up and emptied forward of the machine, as and for the purpose set forth.

**69,433.**—FOSTER HENSHAW, Washington, D. C.—*Filter.*—October 1, 1867.—The body of the filter is made of cast iron with partitions and with caps on each end provided with strainer plates. It is intended to be attached to the hydrant pipe. The water rises through the sand in one compartment and descends through the charcoal in the other.

*Claim.*—First, the alternate sand and cone chambers either with or without the removable coal chambers *g g*, when arranged and combined with the head pieces and the perforated plates *e e* and *f f*, one or both, substantially as described and for the purposes set forth.

Second, the said filter when provided with the extension pipe *h*, as a syphon in connection with the water-holder or tank, when arranged and combined as set forth.

**69,434.**—EDWARD HICKS, North Hampstead, N. Y.—*Suspension Hook for Horse Hay Forks.*—October 1, 1867.—The hook is so bent as to engage over the rafter between strips of lathing.

*Claim.*—First, the hook constructed with its prong *e*, situated at an angle to its shank A, substantially as and for the purpose specified.

Second, the eye A\* of the hook constructed with the angles or corners *a\* b\* c\**, substantially as and for the purpose herein set forth.

**69,435.**—G. H. HOAGLAND, Port Jervis, N. Y.—*Chair.*—October 1, 1867.—The seat frame and back are united to the sides by metallic fastenings of a dovetail shape, and which allow of taking apart for transportation.

*Claim.*—The seat frame and back, or either, secured to the side frames of the chair by means of me-



talle fastenings *c d* forming mortise and tenon locks, of dovetail shape, substantially as specified.

**69,436.**—PETER HOFFMANN, Constableville, N. Y.—*Lamp*.—October 1, 1867.—Oil is pumped from the lower to the upper reservoir by depressing the upper portion of the lamp, which is again elevated by the coiled spring.

*Claim.*—First, the reservoir B provided with the tube C, adapted to slide in or over the tube *a*, for the purpose of pumping the oil from the reservoir A, as herein set forth for the purpose specified.

Second, the combination of the reservoir A, sliding reservoir B, tube *a*, sliding tube C, carrying the tubes *e o*, spring *l*, and valves *i* and *k*, substantially as and for the purpose specified.

**69,437.**—THOMAS and HATFIELD HOPPER, Newark, N. J.—*Steam Car Brakes*.—October 1, 1867.—The brakes are connected through the whole train, and are operated by steam under the control of the engineer. The upper brake rods of adjacent cars are coupled together, and the lower ones abut upon each other, and motion communicated to one is imparted to the others by chain connections, the pulleys on the upper rods taking up the lost motion.

*Claim.*—First, the combination of the sliding rods A and D with the pulleys C<sup>1</sup> and C<sup>2</sup>, chains B and rope G, when arranged to operate the brake levers F, in the manner and for the purpose herein described.

Second, the sliding rods D and adjustable pulleys C<sup>1</sup>, when constructed and arranged in the manner and for the purpose herein set forth.

**69,438.**—FRANCIS E. HOWE and LEONARD WASHBURN, Stafford, Conn.—*Cam for Looms*.—October 1, 1867.—The cams on the shaft operate the levers working the harnesses, giving an alternate down and up motion with pauses between each. The flanges on the cam operate upon the projections of the lever to give the motion thereto.

*Claim.*—The combination of the cam wheel B, having the guide *b*, guide *c*, guide *e*, and guide *f*, with the lever A, having the projections *a d* and *g*, the parts and the whole being arranged and operating substantially as and for the purpose described.

**69,439.**—JAMES P. HOWELL, New York, N. Y.—*Lamp Chimney Cleaner*.—October 1, 1867.—The cloth is lapped and tied upon a stick, whose joints render it flexible.

*Claim.*—The lamp chimney cleaner with a flexible jointed handle that will yield to the curves of the glass, and covered with cloth or other suitable material, in such manner that such cloth may be readily applied or detached, substantially as shown and described for the purpose set forth.

**69,440.**—RICHARD HUBBARD, Cadiz, Indiana.—*Washing Machine*.—October 1, 1867.—The cylinder has buckets on its periphery which lift water and pour it upon the clothes; the scrubbing surfaces act against the slats of the yielding washboard, which is pivoted at bottom and drawn against the cylinder by an elastic band above.

*Claim.*—First, in combination with a revolving rubbing cylinder E the adjustable washboard C and bands of elastic webbing D, arranged to operate substantially as set forth.

Second, the revolving cylinder E, when constructed with buckets E<sup>1</sup> and rubbing surfaces E<sup>2</sup>, substantially as set forth.

**69,441.**—H. L. ISHAM, Plattsburg, N. Y.—*Bed Bottom*.—October 1, 1867.—The slats are suspended by studs at their ends by means of elastic loops from the bedstead rails, and the slats are also bound together by interwoven belts.

*Claim.*—The combination of the slats C C with the narrow slots at each end for securing the bands *a a* that connect the slats to the cross pieces B, and additionally connecting the slats, one with the other, by the belts D D, whereby the slats are prevented from turning, as herein specified.

**69,442.**—C. M. JENNE, Young America, Ill.—*Cultivator*.—October 1, 1867.—The plow beams work upon universal joints at the sides of the frame. The share vibrates laterally by handles, which extend up

through the slotted guides and are adjusted for the depth by wedges driven between the oblique bars and the elevated axle.

*Claim.*—First, the arrangement with reference to the seat *u* of the beam *i*, working upon universal joints, and provided with suitable shares and handles, substantially as and for the purpose specified.

Second, the share stocks *n* pivoted to the beams *i*, and furnished with stems *x*, extending through the slotted guides *e*, substantially as and for the purpose specified.

Third, the wedges *g* in combination with the inclined bars *f*, rods *h*, and beams *i*, whereby the said beams with the shares attached thereto may be raised or lowered, substantially as herein set forth.

Fourth, the wedges *d* in combination with the oblique bars *c*, in such manner that the position of the said bars may be changed to adjust the position of the beams, substantially as herein set forth.

**69,443.**—HANS J. JOHNSON, St. Peters, Minn.—*Gate*.—October 1, 1867.—The double gate is jointed in the middle, and is hinged to the post at any elevation. The sections are maintained in their relation and adjustment by double-jointed hinges, cogged segments, and a spring.

*Claim.*—First, the combination of the spring G, toothed plate F, bent lever H, plate E, rod D, and loops or eyes B and C, with each other and with the post A and rear end of the part I of the gate, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the double-jointed hinges K, toothed segments L and spring M, with each other and with the adjacent edges of the parts I and J of the gate, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the adjustable catch V with the lower edge of the part I of the gate, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the catch plates P, lever plates S, spring T, and lever U with each other and with the post R and plate or bar O attached to the forward edge of the part J of the gate, substantially as herein shown and described and for the purpose set forth.

**69,444.**—NELSON JOHNSON, Jasper, N. Y.—*Fence*.—October 1, 1867.—The ends of the boards are secured in metallic sockets, which are hung eccentrically on pivots in the posts so as to swing with the wind. The pivots slip into inclined gains in the posts and are secured by pins.

*Claim.*—First, the skeleton metallic sockets having either hollow or solid gudgeons, and otherwise constructed and operating substantially as described for the purpose set forth.

Second, the boards C C<sup>1</sup> C<sup>2</sup> having bevelled upper edges *c'*, substantially as and for the purpose specified.

Third, the combination of the battens A<sup>2</sup> A<sup>3</sup>, strips *a*<sup>3</sup>, post or stake A<sup>4</sup>, pin *a*<sup>4</sup>, and brace D, substantially as and for the purpose described.

Fourth, the combination of the socket B, wedges *c c*, and board C, substantially as and for the purpose specified.

Fifth, the slots *a a*<sup>5</sup>, gudgeons *b*, and pins *a' a*<sup>6</sup>, combined and arranged substantially as described.

**69,445.**—NELSON JOHNSON, Jasper, N. Y.—*Fence*.—October 1, 1867.—The panels are pivoted in the posts so as to swing on a balance in a vertical plane when not detained by the battens on the posts.

*Claim.*—First, the pins *a* in combination with the fence panels B, the said pins constituting the supporting pivots of the panels and part or all of them being removable to facilitate the withdrawal of the panels, substantially as set forth.

Second, in combination with the posts A A<sup>1</sup> A<sup>2</sup> A<sup>3</sup> and panels B, the buttons C, constructed and applied substantially as and for the purpose specified.

**69,446.**—ENOS A. KEASEY, Ligonier, Ind.—*King Bolt*.—October 1, 1867.—Instead of passing through the axle, the king bolt is swiveled to the upper end of a clip which encircles the axle. The two portions at their junction have circular surfaces.

*Claim.*—A king bolt made with a shoulder piece *b* and a projection *d* at the lower end, forming a swivel



joint, with the elip B, constructed and operating as herein described.

**69,447.**—MINER K. KELLOGG, Baltimore, Md.—*Stretcher for Painters' Canvas.*—October 1, 1867.—The angle piece is inserted at the re-entering angle of the frame, and its sections are driven apart by the temper screw so as to stretch the canvas thereon.

*Claim.*—The application of a knee and screw to stretchers by which canvas can be readily kept tight upon its surface, substantially as herein described and represented.

**69,448.**—E. KOHN and J. L. NATCHER, Sidney, Ohio.—*Ladder and Chair.*—October 1, 1867.—The portion with the steps is doubly jointed so as to be capable of forming a back, seat, and front portion when assuming the shape of a chair. Stays and hooks secure it in either position.

*Claim.*—The combined step ladder and chair, consisting of the upright A and string or diagonal piece B, composed of the hinged sections C D E, together with the brace F, all combined and arranged as shown and described.

**69,449.**—JOSEPH KREBS and AUGUST JOHNS, Massillon, Ohio.—*Corn Planter.*—October 1, 1867.—The furrow is made by the forward plow, in whose immediate rear is the tube through which the seed drops from the horizontally-rotating feed wheel above. The latter is driven by gearing from the axle, and is thrown in or out of gear by a lever and clutch. Covering plows and a roller follow in the rear.

*Claim.*—An improved corn planter formed by the combination of the marking plow Y, adjustable covering plow A', roller E', lever D', and dropping wheel T, with each other, said parts being constructed, arranged, and operated substantially as herein shown and described and for the purpose set forth.

**69,450.**—WILLIAM KUEBLER and F. SEELHONET, Philadelphia, Pa.—*Telescope.*—October 1, 1867.—The eye or object glass is adjusted and protected by a ring which screws upon the tube and to which the cap is attached.

*Claim.*—The adjusting ring C, when applied to telescopes and to all optical instruments of a similar nature, substantially as and for the purposes herein shown and described.

**69,451.**—WM. LAWTON, Green Point, N. Y.—*Propeller.*—October 1, 1867.—By the combination of a series of stationary and movable gear wheels with each other and with the driving and working shafts, a rapid rotation is given to the screw.

*Claim.*—The combination of the arms F, pivoted gear wheels C, stationary internally toothed gear wheel H and gear wheel D, with each other and with the driving shaft E and working shaft C, substantially as herein shown and described and for the purpose set forth.

**69,452.**—CYRUS LITTLE and JOEL L. LITTLE, Van Wert County, Ohio, and REUBEN M. DALBY, Springfield, Ohio, assignors to themselves and DOTY & RAWLINS, Springfield, Ohio.—*Dirt Scraper.*—October 1, 1867.—The scraper is pivoted in the frame and retained in position by the spring bolt, which when drawn back allows the scraper to rotate.

*Claim.*—First, the plates G G, constructed as described in combination with the springs e e, on the bar C, in the manner and for the purposes set forth.

Second, the rod D, bar C, and springs e e, arranged in combination with the scraper A, as constructed and for the purposes specified.

**69,453.**—G. A. LLOYD and S. FETLOW, San Francisco, Cal.—*Sewing Needle.*—October 1, 1867.—Explained by the claims and illustration.

*Claim.*—First, making the eye so far from the rear end of the shaft that it will carry the bight of the thread or twine through the cloth sewed when the needle is pushed through the cloth by the thimble or palm, substantially as described.

Second, diminishing the shaft of the needle from a little behind the eye gradually to the rear end, both in width and thickness, substantially as described.

**69,454.**—JOHNSON LOMBARD, Springfield, Me.—*Machine for Folding Leather.*—October 1, 1867.—The rollers and straps combine with the table and main rolling shaft to roll the leather tightly for packing.

*Claim.*—First, the table B hinged to the horizontal frame A, as and for the purpose described.

Second, the combination of rollers c c<sup>1</sup> hung in the hinged side pieces D D, the rollers c<sup>2</sup> c<sup>3</sup> hung in the double standard E, the roller c<sup>4</sup> hung in the slide g on the table B, the main shaft F hung in the posts C C<sup>1</sup>, and the belt n passing over all the rollers, the whole being arranged and operating substantially as and for the purpose herein described.

Third, the slide g and the brake m, in combination with the roller c<sup>5</sup>, arranged and operating as described.

**69,455.**—CHRISTIAN MACK, Leipsie, Ohio.—*Gate.*—October 1, 1867.—By depressing the rear end of the lever the arm is disengaged from the catch. The gate is then slid over the rollers and passes through the slots in the upright till having gained its equilibrium it is swung round.

*Claim.*—The combination of post B, latch and lever H I, gate a, triangular swinging and supporting frame E F D, and post C, constructed, arranged, and operating in the manner as shown and described and for the purpose set forth.

**69,456.**—DONALD D. MACKAY, Whitestone, N. Y.—*Sash Lock and Stop.*—October 1, 1867.—The spring catch that engages in a recess in the frame is withdrawn by the laterally projecting knob. The sliding friction bars, with rollers on their outer ends, either lock down the sash or fasten it at any desired height.

*Claim.*—First, the spring catch e pivoted at its lower end, sliding rod f and knob c\*, arranged in relation with the spring rollers a' a' and the sash A, for operation substantially as set forth, the whole forming a combined sash stop and lock, as described.

Second, the sliding bars b furnished with rollers a' and operated by spiral springs c' as arranged and operating in relation with the sash A, substantially as and for the purpose specified.

**69,457.**—S. H. MAPES, Almond, N. Y.—*Folding Bedstead.*—October 1, 1867.—The side rails of the bedstead are made to fold in so as to allow of its folding within the case. The slats are connected to elastic straps that properly space them when in use and will draw them together when disconnected at the center.

*Claim.*—First, attaching the slats b of each section to the rubber or elastic bands r which will be more or less stretched when the sections of the slats are to be connected together in the center, that being done by suitable hooks i, substantially in the manner and for the purposes set forth.

Second, the arrangement of the folding bedstead with the enclosing case, composed of the hinged or swinging sections s' and D and the hinged top E, substantially as described.

**69,458.**—THOMAS B. MCCONAUGHEY, Newark, Del.—*Governor.*—October 1, 1867.—When the fly wheel to which the governor is attached rotates rapidly, the arms are thrown outward by centrifugal force so that the shoulders pressing against the flange cause the governor to rotate and wind the cord attached to the brake lever. The center of the brake being elevated by the winding cord brings the brake in contact with the balance wheel and checks its motion.

*Claim.*—First, the combination of notched levers g g with spiral spring h, constructed as and for the purpose set forth.

Second, the looped lever L when combined with brake S, in the manner and for the purpose described.

Third, the governor B, in combination with arms e e, notched levers g g, the spring h, and lever L, the whole constructed and operating in the manner and for the purpose substantially as herein set forth.

**69,459.**—H. MCELDOWNEY, Dixon, Ill.—*Ventilating Mill Stones.*—October 1, 1867.—The spiral flange in the inside of the curb ventilates the stones, keeping them from heating and the flour from sweating.

*Claim.*—The spiral flange C at the inner side of the



curb B, in combination with the openings D E at the upper and lower parts of the curb, all arranged substantially as and for the purpose set forth.

**69,460.**—JAMES McFEELY, North Woburn, Mass.—*Window Screen*.—October 1, 1867.—The water passes through small openings in the trough bottom and runs down both surfaces of the screen into the catch trough beneath. The screen being kept moist arrests dust and cools the air passing into the room.

*Claim.*—The perforated or slotted tank D, reservoir E, and spout G, in combination with the frame A and screen B, substantially as described for the purpose specified.

**69,461.**—JOHN McNEILL, New York, N. Y.—*Tucking Attachment for Sewing Machines*.—October 1, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the creasing device I, the pressure plate E, the folding plate F, the guide plate G, and the forming plate H, constructed as described, that by its mode of operation the plaits or tucks of shirt bosoms or other garments shall be creased, folded and finished by sewing, when attached to a sewing machine.

Second, in combination with the above the folding plate K, having the end *m* doubled and turned in upon itself for forming the first or outside one of a set of plaits or tucks constructed and operating substantially as described.

**69,462.**—M. D. MESSLER, New Lebanon, Ohio.—*Fence*.—October 1, 1867.—The panels are connected together by pivoted cleats and braced by spiral-pointed rods that screw into the ground and are attached to the fence.

*Claim.*—First, the rods F, having spirally shaped lower ends, their upper ends bent and secured to the upright of a fence, substantially as described.

Second, the wires *d*, forming the connection between the panels of a fence, constructed and arranged substantially as described.

Third, in combination with the above the pivoted cleats *a a'*, secured and arranged substantially as described.

**69,463.**—THOMAS C. MICHENER, St. Louis, Mo.—*Needle Setter for Sewing Machines*.—October 1, 1867.—The vertical slotted bars are adjusted by a set screw to the necessary projections of the needle, which is embraced in the spring holders attached to the bar.

*Claim.*—The combination of the spring arms B B' with the adjustable arm A A' and the pointed needle guide *c*, all arranged in the manner and for the purpose described.

**69,464.**—DANIEL W. MILLER and MICHAEL BRESTLE, Jr., Middletown, Pa.—*Car Coupling*.—October 10, 1867.—The link swings the bolt in the elongated slot till the bolt slipping over the end of the link engages it on its return.

*Claim.*—First, the sliding block C, provided with pin or bolt *e*, and constructed with recesses *o*, (one or more,) when said recesses are arranged at an angle to the horizontal plane, substantially as and for the purposes set forth.

Second, the sliding block C and its pin *d*, combined with the link G and sheath A, all constructed, arranged, and operating substantially as herein set forth.

**69,465.**—EDWARD MILLER, Milwaukee, Wis.—*Shifting Step for Vehicles*.—October 1, 1867.—The movable step is hung by a hook that embraces the upper edge of the side board.

*Claim.*—First, an improved shifting step A, formed with a hook or flange *a'* upon its upper end, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the hinged handle or top piece B with the step A, substantially as herein shown and described and for the purpose set forth.

**69,466.**—L. B. MILLER, Jersey City, N. J.—*Machine for Milling Twist Drills*.—October 1, 1867.—The combination spindle rotates the drill which is adjustable to be presented for another cut in a new line, without detaching the gearing. The reversing carrier returns the traveling clutches, when reversing

the work, to the same position as at the commencement of the cut.

*Claim.*—First, the spindles D and E, one within the other revolving in a common head and locked together by the spring bolt *b*, in combination with a longitudinal feeding device having a diagonal adjustment, to a rotary milling tool or cutter, substantially as specified.

Second, the arrangement and combination of the vertical slide I, adjustable slide T', intermediate sliding bar U, and slotted eccentric R, for regulating the depth of cut, substantially as set forth.

Third, in combination with said vertically adjustable sliding carriage, the adjustable cam or eccentric V, elbow lever W, and clutch A', operated by the screw *b'*, for giving an irregular depth of cut throughout the line or length thereof, substantially as specified.

Fourth, the reversing carrier or spring-borne clutch D', in combination with the clutches *g' A'*, nuts *e' c'*, and screws *d' b'*, for operation together as herein set forth.

Fifth, the arrangement of the driving shaft J, the work-holding carriage having a longitudinal and swivelling motion, as described, and the burr or milling tool A, substantially as specified.

**69,467.**—W. B. MORRISON, Muskegon, Mich.—*Dough Kneader*.—October 1, 1867.—The plungers are attached to a crank shaft, and are alternately forced on the dough in the concave bottom of the dough box.

*Claim.*—The box A, provided with a concave surface B in its bottom, in combination with the arms or rods E, having shoes G attached and operated from a crank shaft D, substantially as and for the purpose specified.

**69,468.**—J. MADISON MORSE, Sandwich, Ill.—*Cultivator*.—October 1, 1867.—The plow beams are attached to the tongue. The seat frame has forwardly and inwardly projecting arms connected to the tongue before the plow beams.

*Claim.*—The combination of the cart and frame B C D E F G H, constructed and arranged substantially as described, with an ordinary corn cultivator, as and for the purpose herein set forth.

**69,469.**—E. M. NARAMORE, North Underhill, Vt., assignor to himself and W. M. NARAMORE, same place.—*Thill Coupling*.—October 1, 1867.—The clip bar has a socket for the knuckle of the thill, which oscillates on conical pivots and is secured by a spring catch.

*Claim.*—First, the bed piece A, constructed substantially as described for the purposes set forth.

Second, the knuckle B, formed of the parts *a b c*, in combination with the bed piece, substantially as described.

Third, in combination with the bed A and knuckle B, the spring catch C, with its link *f* and spring J, substantially as and for the purposes herein set forth.

**69,470.**—J. B. NEWBROUGH and E. FAGAN, New York, N. Y.—*Composition for Imitation Rubber*.—October 1, 1867.—Sulphur is melted, and, while at a low temperature, is mixed with half its weight of stearine or margarine, maintained at a low melted temperature, and stirred until well mixed. It is used as a substitute for vulcanite. When not subject to the action of acids or alkalis, gum copal may be substituted for sulphur, and plaster of Paris, asbestos, &c., may be added.

*Claim.*—As a new composition, stearine or margarine, and sulphur, gum copal, or other suitable material, so combined and in such proportions as to form a compound of the nature herein described.

**69,471.**—AMBROSE J. NICHOLS, North Providence, R. I.—*Warper and Dresser Plate*.—October 1, 1867.—The eyelets are loosely attached in the copper plates, so that they may freely turn with the thread.

*Claim.*—The eyelets B, when placed in the holes in the copper A in such a manner as to turn loosely therein and allow the thread to wear equally upon all sides and prevent the formation of chancels, as herein shown and described.



**69,472.**—BRADWORD W. NICHOLS, Phoenix Village, R. I.—*Picker for Looms.*—October 1, 1867.—The casing and binding of the picker are made of raw hide, and are secured to the staff by flanges on each side, to prevent its slipping out of place when in running order.

*Claim.*—The combination of the picker staff, and binder *b*, with a raw hide case *a*, the case having laps *h* projecting over the sides of the staff and a shoulder *i* in the hide, to hold the filling *g* in place, substantially as described.

**69,473.**—C. C. PARSONS, Boston, Mass.—*Pipe and Bolt Cutter.*—October 1, 1867; antedated September 18, 1867.—The two rotary disk cutters work in conjunction in the cutter stock. Each cutter has an angular cutting edge, their inclination being opposite, and the cutting edge being on the outer face of each.

*Claim.*—A pipe or bolt cutter having two rotary disk cutters, arranged to operate substantially as set forth.

**69,474.**—BUEL D. PEASE, Madison, Pa.—*Rein Holder.*—October 1, 1867.—The spring cam is pivoted in the frame that is attached to the dash board, and engages the reins when required.

*Claim.*—An improved rein holder formed by the combination of the frame *A*, cam *B*, and spring *D*, with each other, substantially as herein shown and described and for the purpose set forth.

**69,475.**—W. C. PECK, Wheeling, W. Va.—*Churn.*—October 1, 1867.—The cream box fits in the rocking frame and has slotted dashers through which the cream rushes as the churn is rocked by the hinged arm above.

*Claim.*—The detachable cream box *D*, dashers *G*, bar *B*, cross bar *I*, and uprights *H*, all constructed and arranged as herein shown and described.

**69,476.**—G. M. PETERS, Granville, Ohio.—*Harvester Rake.*—October 1, 1867.—The rake discharges the grain at the side of the platform, behind the main frame of the machine. The rake reciprocates in guides arranged in rear of the platform and in a path parallel with the cutters.

*Claim.*—The reciprocating rake carriage *I I'*, in combination with the reciprocating slide *K* and chain *M*, substantially as described.

Second, the rake head *J*, pivoted to the reciprocating carriage *I I'*, in combination with the reciprocating slide *K*, operating as described.

Third, the arrangement of the ways or guides *H L* in relation to the platform and in combination with the rake carriage and lifting slide, substantially as described.

Fourth, the combination of the reciprocating and lifting rake *J*, and carriage *I*, ways or guides *H L*, and endless chain *M*, with the platform *G*, substantially as described.

**69,477.**—HENRY J. PHALEN, Plantersville, Texas.—*Apparatus for Heating Water and Condensing Steam.*—October 1, 1867.—The water is forced in the same direction as the current of steam by which it is overtaken and with which it mingles in a spray-like condition, causing both condensation of steam and heating of the water.

*Claim.*—The arrangement of the pipes *D G* for the passage of the steam of the water or other liquor, whereby the water or liquor is forced in the same direction as the current of steam, by which it is overtaken and with which it mingles in a spray-like or other divided condition, substantially as and for the purpose herein specified.

**69,478.**—MASON PRENTISS, Cambridge, N. Y.—*Plow.*—October 1, 1867.—The shoe is adjusted on the rear foot of the plow beam, to regulate the dip of the plow.

*Claim.*—The adjustable shoe *D*, applied to the curved rear part of the plow beam *A*, substantially in the manner as and for the purpose set forth.

**69,479.**—A. J. PURVIANCE, Keosauqua, Iowa.—*Mode of Operating Horse Hay Forks.*—October 1, 1867.—When the fork is loaded the horse is started and the load elevated, the operator holding the cord

to prevent the conveyor being moved. As the fork reaches its culminating point the head is caught and retained in the conveyor by the cam. The operator by releasing the cord allows the conveyor and loaded fork to be drawn on the line to a position above the stack, and the fork being tripped the hay is dumped.

*Claim.*—First, the conveyor *D*, provided with the horizontal ribs *C C*, having circular holes *d*, roller *a g*, cam *F*, and crank *G*, constructed as described for the purpose specified.

Second, the projection *J*, in combination with the crank *G*, and cam *F*, substantially as described for the purpose specified.

Third, the fork head *E*, provided with the shoulders *e*, whereby it is held in position by means of the cam *F*, as it enters the conveyor *D*, substantially as described for the purpose specified.

Fourth, the combination of the fork head *E*, conveyor *D*, cam *F*, crank *G*, and projection *J*, substantially as described.

**69,480.**—ADAM REID, Buffalo, N. Y.—*Potato Baker.*—October 1, 1867.—The hot air is conveyed up the hollow casing of the portable baker. A perforated shelf holds the potatoes and allows free vent for the hot air through and around it.

*Claim.*—A potato baker, made to sit upon or in the pot-hole of a cooking stove, having an inner shelf *D*, for the support of the articles to be baked, and a double wall forming an annular hot air chamber *A*, with apertures *C*, made through the inner wall, substantially as described.

**69,481.**—C. H. REMINGTON, Dubuque, Iowa.—*Bullet Machine.*—October 1, 1867.—The short lengths of lead wire are fed and cut off successively, and pushed into dies that are forced together by slides worked by cams whose pressure swages the lead into bullets.

*Claim.*—First, the combination of the slides *b b'*, actuated by the cams *a a'*, the moving die *c*, and the stationary die *c'*, the punch *d*, and the feeding slide *g*, arranged and operating substantially as and for the purposes herein described.

Second, the head block *k*, the clamping jaw *k<sup>1</sup>*, the sliding arm *k<sup>2</sup>*, and slide piece *k<sup>3</sup>*, actuated by the side cam *m*, combined and operating substantially as and for the purpose herein described.

**69,482.**—CHARLES RICHARDSON and J. GRÈME, JR., New York, N. Y.—*Logotrope.*—October 1, 1867.—The words printed on the peripheries of a number of disks are transposed to form different sentences, and when arranged may be secured and rotated to bring each sentence consecutively in view.

*Claim.*—The supporting rods *b*, sleeve *c*, and nut *b\**, arranged in relation with each other and with the disks, furnished with suitable words at their peripheries, substantially as and for the purpose specified.

**69,483.**—M. S. RICHARDSON and E. A. POND, Rutland, Vt.—*Generating Gas from Hydro-Carbon Liquids.*—October 1, 1867.—The gas from the air pump enters through the pipes and central chamber and passes out in a fine stream through the small tubes, from which it is discharged into and passes through the body of the hydro-carbon liquid. It is driven into the next compartment, passing again into and through the liquid, and again it passes through the last series of pipes, being discharged as before into the liquid that surrounds the float, whence it rises thoroughly carbureted to the upper part of the tank.

*Claim.*—First, in the manufacture of gas from hydro-carbon fluids, the method herein indicated of discharging air in a divided state into the body of the carbureting fluid in such manner that the discharge of the said air may at all times take place at the same depth below the surface of the fluid, for the purposes set forth.

Second, the combination with the carbureter or tank for containing the hydro-carbon, of a float provided with concentric compartments under the arrangement described, so that the air in passing from one compartment to another shall be forced in a divided state into and through the body of the carbureting fluid, as set forth.

Third, the float herein described, the same consisting of a series of open bottomed concentric chambers,



communicating one with the other by means of tubes or pipes, and connected with the air supplying apparatus, substantially as set forth.

**69,484.**—EDWIN RITSON, Maltaville, N. Y., assignor to WILLIAM H. BURTIS, same place.—*Seeding Machine.*—October 1, 1867.—Improvement on his patent July 10, 1860. As the machine is drawn along, a vibrating motion is given to the shoes by the cog wheel acting against the arm, and thereby effects the passage of the seed, which is also regulated by the slides at the bottom of the hopper. Divisions in the compartments of the hopper facilitate the sowing of various seeds at the same time.

*Claim.*—First, the combination of the rotary furrow openers E, and coverers I, attached respectively to the frames C D, the former being connected by hinges or joints *a* to the front end of the frame A, and the latter connected by hinges or joints *b* to the rear of the frames C, substantially as and for the purpose set forth.

Second, the vibrating shoes L, arranged and operated as shown, in connection with the seed box K, provided with one or more compartments, and all arranged substantially as and for the purpose specified.

Third, the attaching of the coverers L to the rear bars *d* of the supplemental frames D, to admit of the adjustment of the coverers, substantially in the manner as and for the purpose set forth.

Fourth, the combination of the furrow openers E, coverers I, and the seed-distributing device composed of the vibrating shoes L, and perforated bottom of the seed box, provided with slides *o*, all arranged substantially as and for the purpose specified.

**69,485.**—MARTIN ROBBINS, Cincinnati, Ohio.—*Oil Can.*—October 1, 1867.—The pivoted nozzle is regulated to any required angle. The oil is discharged by pressure on the elastic handle that connects by a tube with the interior of the can.

*Claim.*—First, a can or vessel for containing oil, sirups or other liquid, provided with a vacuum handle and an adjustable nozzle, substantially as herein shown and described.

Second, the nozzle F, adjustably attached to the stopper D, the latter being continued into the can to form the conducting tube as herein set forth, for the purpose specified.

Third, the combination of an adjustable nozzle with the can or vessel, substantially as herein shown and described.

**69,486.**—HENRY RODES, Clarence Center, N. Y.—*Combined Corn Planter and Plaster Dropper.*—October 1, 1867.—The cams on the rock shaft alternately actuate the seed valves of the hoppers. Gauge slides in the rear hoppers regulate and measure the amount of plaster sown. The stiff arms that connect by a stirrup with the pivoted bars support and regulate the drill teeth and coverers.

*Claim.*—First, the combination with a corn planter C and plaster dropper D, of a dropping arrangement that by a single movement shall open the one and close the other automatically, and *vice versa*, as herein set forth.

Second, the special combination and arrangement of the dropping apparatus, consisting of slides F G, connected with the single arm E, and operating in the manner and for the purpose herein specified.

Third, the combination of the sliding gauge plug *n* with the slide plates *l l'*, arranged as described, and operating in the manner and for the purpose specified.

Fourth, the construction, combination, and arrangement of the draw bars I I', stirrup *r*, and connection *w*, with the drill tooth *t* and coverer *v*, as herein set forth.

Fifth, the combination and arrangement of the elastic connection *a'* and the adjusting gauge *b'*, with the pivoted plaster tube *m*, operating in the manner and for the purpose set forth.

Sixth, the arrangement of hoppers C D with dropping slides F G, the rock shafts E H with connection Z, the cam and roller *c a*, and the draw bars I I', with stirrup *r*, and connection *w*, the whole operating in the manner herein set forth.

**69,487.**—CHARLES ROGERS, Barker, N. Y.—*Combined Horse Rake and Hay Spreader.*—October 1, 1867.—The head frame is supported on a caster wheel

behind, and has connected with it either a rake or tedder, as required. The caster wheel allows the tedder to adapt itself to inequalities of the ground.

*Claim.*—The frame C, arranged in rear of the axle A and supported by the caster wheel *c*, in combination with the bearings *g h* and the head of a rake or tedder, substantially as and for the purpose specified.

**69,488.**—ALFRED V. RYDER, New York, N. Y.—*Trunk.*—October 1, 1867.—Improvement on his patent, September 18, 1867.—Explained by the claims and illustration.

*Claim.*—First, in a trunk, the body of which is composed of three main portions or compartments A B C, the front upper or upper front one A of which is hinged, as at *a*, and made to open and close, as described, constructing the front of the rear portion B of a shelving or receding character relatively to the dividing cut or cuts *b*, substantially as and for the purpose or purposes herein set forth.

Second, hinging the front upper, or upper front portion A, when the same is arranged to open as described, relatively to the remaining portion or portions of the trunk, at a point or in a line which is in advance of a vertical center through the width of the trunk, essentially as specified.

**69,489.**—JACOB SATTISON, Ripley township, Ohio, assignor to himself and AMBROSE FRAYER, Ripley, Ohio.—*Grain and Seed Cleaner.*—October 1, 1867.—The grain after passing through the sieves is screened while passing along a rotating bolt.

*Claim.*—The bolt B, in combination with the shake sieves M, conductors N and O, when arranged and operated conjointly with a fan or blower, in the manner and for the purpose substantially as set forth.

**69,490.**—HENRY SAUERBIER, Newark, N. J.—*Shoe Knife.*—October 1, 1867.—The cut of the knife is gauged by a guard that is adjusted by a set screw.

*Claim.*—The sliding or adjustable guard or gauge C, provided with a lip *b* and turned up edge, in combination with the blade of the knife, substantially as and for the purpose herein set forth.

**69,491.**—HENRY SAUERBIER, Newark, N. J.—*Shoe Knife.*—October 1, 1867.—The pivoted guard has a lip that fits in the crease at the junction between the sole and upper to prevent cutting the latter.

*Claim.*—The guard C, having the lip *b* at its outer end, when provided with the beveled recess *c* resting against the blade A, as and for the purpose set forth.

**69,492.**—JOHN G. SANDERS, Narragansett, R. I.—*Center Board.*—October 1, 1867.—An upright rack bar is pivoted to each end of the center board. Pawls engage with the racks and secure the center boards at a regulated height.

*Claim.*—First, the raising and lowering of the center board in an oblique direction by means of an oblique slot or groove and a fixed bolt, or their equivalents, arranged substantially as and for the purpose set forth.

Second, the rack bars C, in combination with the pawls *c* and the center board B, all arranged substantially as and for the purpose specified.

**69,493.**—JOHN SCHIERMERHORN, Spring Creek, Pa.—*Washing Machine.*—October 1, 1867.—The dasher shafts of the rubber are mounted in adjustable boxes that have bearings in the sides of the tub. Connected with the boxes are pendent hooks that are attached to coiled springs placed outside the box, and allow the vertical adjustment of the pivoted rubber shafts.

*Claim.*—First, the construction of the boxes D, of the square part *g*, and the arm *d* with hooked end *e* for receiving the spring *f*, in combination therewith and with the rubber B C, substantially as and for the purpose described.

Second, the combination of the spring *f*, adjustable boxes D *g d e*, and corrugated rollers C, meshing with the corrugation of the rounded bottom of case A, substantially as described, for the purpose specified.

**69,494.**—WM. SERVISS, Sidney, Ohio.—*Gate.*—October 1, 1867.—The gate swings from post to post, and has a recessed enclosure for pedestrians to stand in while they swing the gate to afford them a passage.



*Claim.*—The arrangement of the post C of the par-tail enclosure, relatively to the posts *a b*, when provided with a hinged stop F, whereby the gate is retained between the points C *a* of the enclosure, or may be opened at pleasure, substantially as set forth.

**69,495.**—SAMUEL SHIVE, Forks, Pa.—*Water Wheel.*—October 1, 1867.—The wheel is mounted on a sliding frame that is operated by levers to follow the rise and fall of the stream.

*Claim.*—First, the wheel A, mounted on the sliding frame B, secured to the hinged pulley frame D, and operating substantially as described, for the purpose specified.

Second, the hinged pulley frame D, in combination with the wheel A, constructed and operating substantially as described.

**69,496.**—DANIEL SIMMONS, New York, N. Y.—*Railway Switch.*—October 1, 1867.—The operating bars, after having acted upon the head of one of the levers between the rails to turn the switch, are automatically lifted out of the way of being interfered with by the head of the other lever when passing over the same. The pawls engage in notches in the sleeper to lock the rails.

*Claim.*—First, the horizontal-operating bars G, upright bars I, stems *h*, and springs *i*, arranged to operate in relation with each other and with the platform fulcrum *r*, and the laterally-projecting pins or studs *b\** of the lever heads A\*, substantially as and for the purpose herein set forth.

Second, the combination of the locking pawls *d* and rods *d'* with the switch rails C and levers D, substantially as and for the purpose herein set forth.

**69,497.**—L. F. SKINNER, Springvale, Wis.—*Bob Sleigh.*—October 1, 1867.—Each runner is independent in its own motion, allowing it to give and take in turning. They are braced in front by iron rods attached to the reach and to the tongue.

*Claim.*—The hubs *a a a a*, spokes *d d d d*, forming the segment of a wheel when attached to runners A A A A, in combination with axles B B, constructed as described and operating as set forth.

**69,498.**—WM. H. SLOAN, St. Louis, Mo.—*Butter Tryer.*—October 1, 1867.—The scraper fits the trough of the gouge to remove the butter therefrom.

*Claim.*—The scraper B, when provided with a handle *b* and a convex scraper piece *b<sup>2</sup>*, as described and set forth.

**69,499.**—H. D. SNOW, Bennington, Vt.—*Steam Governor.*—October 1, 1867.—The governor is adjusted to prevent the valve closing too much when the work is thrown off the engine, so that only the amount of steam shall be admitted to the engine to run it at its regular speed. An adjustment between the governor spindle and the valve spindle permits the speed of the governor to be regulated before the valve is moved by the governor sufficiently to regulate the supply of steam.

*Claim.*—The arrangement of the revolving head *m*, segment arms *p*, and governor balls, in combination with the valve rods and adjustments *u v*, as and for the purposes set forth.

**69,500.**—FISHER A. SPOFFORD and MATTHEW G. RAFFINGTON, Columbus, Ohio.—*Toy Pistol.*—October 1, 1867.—The spring follower discharges the ball when tripped by the trigger.

*Claim.*—The toy pistol consisting of a barrel open at both ends, with the aperture E opening directly into the barrel, near the breech, and having the spring *h* located therein, as shown, with the piston B operated by the spring C, and the trigger D arranged to release the piston by elevating its front end, all as herein shown and described.

**69,501.**—DAVID I. STAGG, New York, N. Y.—*Attachment for School Desks.*—October 1, 1867.—The Drawing board is fixed in a slot in the desk and secured at any desired inclination, or is let down within the slot, out of the way, when not in use.

*Claim.*—The sliding frame B, constructed as described, having the extended top-supporting rail *c*, and attached to the desk by means of the spring catch C, said frame adapted to fit the slot *a* of the

desk, substantially as described for the purpose specified.

**69,502.**—JOSEPH F. STERETT and CHARLES M. J. REYNOLDS, Ottumwa, Iowa.—*Combined Corn Planter and Cultivator.*—October 1, 1867.—The corn is dropped as the slides are operated by the rear bar, and falling through the pipe into the furrow is covered by the shovel.

*Claim.*—The arrangement of the hopper D upon the beam, with the pipe J, slides H and *a*, bar F, and the round of the handles, with its lever G and arm E, the several parts being used and operating as and for the purposes set forth.

**69,503.**—J. H. STEVENS, Boston, Mass.—*Fire Alarm Telegraph.*—October 1, 1867.—The signal box is connected with the circuit passing through the rheotrope at the central station. The rheotrope is started by the electric current, and the bells in the circuit will all be struck as indicated by the breaks on the circuit wheel of the original box. The rheotrope may be thrown out of the circuit at any time so that the line may be used or tested without sounding the alarm.

*Claim.*—First, the rheotrope D, and reversing magnets I, in combination with each other, when connected with and operated by signal box K, substantially as described.

Second, the arrangement and combination of the wires M M, switches B and knobs C, so as to include in or exclude from the circuit the rheotrope D, substantially as and for the purpose described.

Third, the described combination and arrangement of signal box K, start magnet E, rheotrope D, with its springs L and wires M, with switches B, and reversing magnet J, substantially as and for the purpose described.

**69,504.**—M. W. STEVENS and E. H. DRAKE, Stoughton, Mass.—*Odometer.*—October 1, 1867.—The odometer is actuated by a spring in connection with a recess in the journal of the axle so that the journal acts as a cam to move the pitman of the odometer.

*Claim.*—The application of the odometer with the hub B and its journal D, in manner as specified, in connection with the formation of such journal, with a notch *x*, and the application thereto, and to the odometer train, of a pitman *y*, and a spring *z* to operate the said train, substantially in manner and by the revolution of the wheel hub in the axle journal, as specified.

Also, the combination and arrangement of the cap or guard *v*, with the train, the dial plate, and the case B, and its hollow shank C.

Also, the arrangement and combination of the spring *z*, and the cranked shaft *t*, and its pawl *r*, with the train of gears and screws for operating the index arbor *g*, as specified.

**69,505.**—WM. STEVENS, Bloomington, Ill.—*Furnace.*—October 1, 1867.—The hot air is supplied by pipes that run below and are heated by the furnace. The air passing up a flue to the perforated plate is forced through jets that intersect the flame, consuming the smoke and gas.

*Claim.*—First, the tube E and pipes *i i i*, arranged in the manner as specified, and used for the purpose set forth.

Second, the arrangement of the chamber D, perforated plate G, in combination with the tube E and pipes *i i i*, in the manner and for the purposes specified.

**69,506.**—WM. STINE, Elmore, Ohio.—*Stove Pipe Joint.*—October 1, 1867.—The ring has a flange around its outer circumference that acts as a stop to the pipe to prevent settling.

*Claim.*—The perforated metallic ring for securing the joints of stove pipes and smoke stacks, provided with the central flange *a* around its periphery, when constructed as described, with the ends upon both sides of the flange *a* of equal or of unequal diameters, substantially as herein shown and described.

**69,507.**—THOMAS B. STOUT, Keyport, N. J.—*Washing Machine.*—October 1, 1867.—The pivot pins of the frame that operates the corrugated rubber slide in grooves of the side-board of the machine as the



rubber is drawn back and forth over the clothes that lie upon the corrugated bottom board.

*Claim.*—The rubber B, having a vibrating or self-rocking movement, and arranged and operating substantially as and for the purpose herein specified.

Also, the wash-board C, rocking or self-adjusting sidewise, in combination with the rocking movement of the rubber B at right angles thereto, substantially as and for the purpose herein set forth.

Also, the adjustment of the wash-board so as to bring its flutings or corrugations either parallel with or oblique to those of the rubber, substantially as and for the purpose herein specified.

**69,508.**—W. H. STROUP, Philadelphia, Pa.—*Sleigh Runner.*—October 1, 1867.—The runners have elevises attached that embrace the felloes of the wheels of the vehicle, which is mounted on the sled.

*Claim.*—The runners A A<sup>1</sup>, hinge C, and keeper B, arranged in the manner and for the purposes specified.

**69,509.**—A. TANDY, Columbia, Ohio.—*Gate.*—October 1, 1867.—The supplementary post is pivoted in a bottom journal and hinged by a band to the main post at top. The latch bar is actuated by the pivoted lever, and enters a recess in the post. The toe of the gate runs over the ground on a roller.

*Claim.*—Forming the upper hinge of a slot in the upper end of the bar C and guide E, substantially in the manner herein shown and described and for the purpose set forth.

**69,510.**—ROBERT F. TOMPKINS, New York, N. Y.—*Wood Mitering Machine.*—October 1, 1867.—The two knife blades move up and down in a vertical plane, and are adjusted with regard to each other to regulate the angle of the miter. The blocks on which the material is cut are correspondingly adjusted to suit the angle of the blades.

*Claim.*—The adjustable sector-shaped rest blocks B, having guide pieces U, in combination with the guide wing M, adjusted by means of the set screws P in the slotted plate K, and bearing the inclined cutter blades N, and with the adjustable guide strips R, substantially as described for the purpose specified.

Second, the adjustable grooved post V, in combination with the cutter blades N and rest blocks B, as and for the purpose specified.

**69,511.**—JOSEPH TRENT, Millertown, N. Y.—*Car Coupling.*—October 1, 1867.—The pivoted coupling-catch is swung back by the entering link, and may be prevented from swinging forward to release the link by a block, which is driven by a screw behind its upper end. The buffers admit of rotation, so that when one car is overset the buffer turns, and disconnecting the catch from the block releases the coupling.

*Claim.*—The combination and arrangement of the revolving buffers B B<sup>1</sup>, buffer bars D D<sup>1</sup>, blocks G G<sup>1</sup>, springs K K<sup>1</sup>, and rods H H<sup>1</sup>, substantially as described for the purpose specified.

**69,512.**—JOHN TROXEL, Reedsburg, Ohio.—*Mop Head.*—October 1, 1867.—The jaws are closed by the pivoted arms actuated by the lever that is clamped by the link when the jaws are closed.

*Claim.*—The arrangement of the heads A A, arms B B, levers C and D, and link E, the several parts being constructed and operating in the manner and for the purpose set forth.

**69,513.**—FRANCIS VAN DOREN, Adrian, Mich.—*Sheep Shears.*—October 1, 1867.—A set of cutters on one lever are brought in connection successively with a single cutter of the other lever.

*Claim.*—First, having two or more stationary guards or cutters E E and one movable cutter A on sheep shears, substantially as and for the purpose herein shown and described.

Second, the movable cutter A, in combination with two or more stationary guards or cutters E E and gauges a b, all made and operating substantially as herein shown and described.

**69,514.**—CHARLES VAN DYECK, Nashville, Tenn.—*Spring Bed.*—October 1, 1867.—The supplementary frames have an additional series of spiral springs, in connection with the reversible mattress.

*Claim.*—The combination of the three frames C a b, mattresses A B, diaphragm H<sup>1</sup>, springs D D<sup>1</sup> and H, arranged substantially as described.

**69,515.**—A. O. VERY, Andover, N. Y.—*Loom.*—October 1, 1867.—The forward portion of the treadle shaft has a loose jacket, on which is a spiral cam operating the harness. The rear ends of the straps operating the shuttle motion are adjustable. The picker staffs are tripped by two arms on the treadle shaft in the rear of the loose jacket. The lay is connected to a crank movement in the front sides of the frame to enable one person to operate the loom and attend to the fabric.

*Claim.*—First, operating the treadle shaft of looms by means of a direct action of the lay on a cam formed on a loose jacket on the treadle shaft, substantially as described.

Second, the spiral cam G on the loose jacket F, on the treadle shaft C, substantially as and for the purposes set forth.

Third, the roller pins g g on the under side of the shuttle race H, operating the cam G on the loose jacket F, substantially as and for the purposes set forth.

Fourth, making the straps operating the picker staffs adjustable, substantially as described.

Fifth, the tripper arms c d on the treadle shaft C, substantially as and for the purpose described.

**69,516.**—W. B. WALKER, Salem, Iowa.—*Loom.*—October 1, 1867.—Cannot be briefly described, other than substantially in the words of the claim.

*Claim.*—First, the construction and arrangement of the downward projecting arms b b, slotted longitudinally, in which the pickers f f are pivoted, and supporting the picker blocks g g, which are mortised to receive and enclose the upper ends of said pickers, as herein shown and described for the purpose specified.

Second, the pickers f f, one in the end of each arm or exterior of the lay, with the projections or arms d d, having a convex point, and being concave from that to the main body of the picker, substantially as described and for the purposes set forth.

Third, the main springs c c, with the outer end convex, or bent up to work on the convex point of the projection d d of the arms of the pickers, substantially as described and for the purposes set forth.

Fourth, the arrangement and combination of the platforms l l, fastened on the top of the sides of the loom with and for the purpose of holding the guide springs i i j j and k k, also the set springs or catches r r and elbows s s, to which the set springs are attached, substantially as described and for the purposes set forth.

Fifth, the cloth beam 7, with the ratchets 2 and 3 attached, and the surface covered by cards or filled with pins, the spring s'', and pawls 4 and 6, substantially as described and for the purpose set forth.

Sixth, the extra cloth beam or receiving beam on which the web will be received by the action of the take-up beam, in combination with the take-up beams, constructed and operated as described.

**69,517.**—C. G. WATERBURY, New York, N. Y.—*Wooden Pavement.*—October 1, 1867.—The wooden blocks have projections on their sides by which they key into each other, and are secured by bolted strips.

*Claim.*—First, the blocks A, with their projections B and E, constructed and arranged substantially as and for the purpose set forth.

Second, in combination with the blocks A, having projections B and E, the movable strips C and bolts D, substantially as and for the purpose set forth.

Third, in combination with the blocks A, having projections B and E, the bolts D, with or without the strips C, substantially as and for the purpose described.

**69,518.**—WM. H. WATERS, Springfield, Mass.—*Drop Hammer.*—October 1, 1867.—The hammer is raised between two guide posts by a board fastened to the hammer by a leather strap, and which passes between two plain rolls. The rolls are brought to bear upon the board and raise the hammer by means of two cam boxes moving around a shaft and connected by two arms to the drop rod. The depression of the treadle releases the hammer, which acts to bring the



rolls together, and a dog on the ascending hammer strikes a dog on the drop rod, and lifting the same causes the rolls to open. The hammer is then at rest until another depression of the treadle.

*Claim.*—First, a pair of rollers F F, each of which is separately rotated by power applied to the pulleys H H, in combination with the board, or strap and drop, substantially as set forth, so that lifting power is applied to each surface of the strap or belt, in the manner and for the purposes set forth.

Second, in combination with the rod 5 and drop the mechanism, substantially as set forth, for sustaining the rod at any point to which it may be raised, as specified.

**69,519.**—ASA WEEKS, Minneapolis, Minn.—*Breech Loading Ordnance.*—October 1, 1867.—The cannon is through bored. When loading the cartridge is placed in a sliding cartridge holder having a disk sliding therein to take the impact of the rammer by which the cartridge is forced to place. When the cartridge is in place the holder is withdrawn to admit the wedge-formed breech block, which is moved vertically by a rack and pinion and secured by spring pins. A hammer is pivoted beneath to loosen the breech block.

*Claim.*—First, the arrangement of the pins *w v* with coil springs, when used in combination with breech blocks C, as constructed, in the manner set forth.

Second, the combination of the sliding bar *k* and hammer E with the block *c* and cannon A, for the purposes herein specified.

**69,520.**—D. C. WESTFALL, Mifflin, Pa.—*Horse Collar Fastening.*—October 1, 1867.—The spring catches secure the attachment of the lower ends of the collar.

*Claim.*—The horse collar fastening, consisting of grooved hollow caps for receiving and concealing the ends of the collar, forming a bearing for the hames and concealing in one part the spring sliding bar *f*, which catches over the bevel-hooked projections of the other part, when constructed and operating as herein represented and described.

**69,521.**—JAMES A. WHITNEY, Jersey City, N. J.—*Spike.*—October 1, 1867; antedated September 26, 1867.—The spiral part causes the shank to twist and engage the teeth in the fibers of the timber.

*Claim.*—A notched, toothed, or serrated spike constructed with a spiral or twisted portion, substantially as herein set forth.

**69,522.**—FRIDREK WICHELHAUS and CHARLES ROTHE, Newark, N. J.—*Skate.*—October 1, 1867.—The side clamps of the fore plate are drawn in by a forward movement of the foot. The heel and toe plates are connected by a spring connection which is pivoted to the heel plate by an elliptical headed stud and is attached by a pin to the fore plate.

*Claim.*—The elliptic heel button *f*, firmly secured to the spring lever E, which plays in the recess *d*, between the rear standard D and the sole plate B, and whose forward end drops into the rear end of the foot plate A, in the manner and for the purpose herein described.

**69,523.**—D. C. WILSON, Beaufort, S. C.—*School Desk and Seat.*—October 1, 1867.—The end frames consist each of a vertical cross frame connected at top by the desk board and having a seat bracket whose horizontal bars issue from the intersections of the end frames.

*Claim.*—The school desk and seat, constructed as described, consisting of the end frame A B, framed into each other and held in position by means of the top board and shelf, the seat being formed upon the timbers E, secured to the front part of the frame A, as herein shown and described.

**69,524.**—ADOLPH WITT, Cincinnati, Ohio.—*Watchman's Register.*—October 1, 1867.—At each quarter of the hour the watchman, if present, turns the knob and by its connection opens the corresponding shutter on the dial plate and thereby registers his attendance on duty.

*Claim.*—First, the combination of the tubular center shaft C *c c'*, minute hand and stem D D' *d d'*, ax-

ial rod E *e*, spring hour hand K *k*, perforated dial plate N *n*, shutters O, and closing follower R, the whole being arranged and operating substantially as herein described and for the purpose specified.

Second, the combination of the hour wheel F *f*, intermittent wheel H *h*, and spring J, as and for the purpose set forth.

Third, in combination with the seven described elements of the first clause, the spring belt crank T *t t'*, and rod U *u*, for the objects explained.

Fourth, the combination of lever W, cam X, shaft Y, spring Z, and operating knob or handle Y', or their equivalents, for the purpose described and set forth.

**69,525.**—JAMES C. WOODWARD, Franklin, Conn.—*Saw Set.*—October 1, 1867.—The saw plate is laid on the vertically adjustable rest with its teeth against the guide pieces and upon the soft strip. The "hammer head" is set to the depth of teeth for operating on the same.

*Claim.*—First, the hammer head C, constructed as described, provided with the stem K, fitting longitudinally into the outer or swinging end of the shank B, and adjusted by means of the thumb screw M, as herein set forth for the purpose specified.

Second, the set screw Z, substantially as and for the purpose described.

**69,526.**—JOHN N. WRIGLEY and GEORGE SMITH, Newark, N. J., assignors to JOHN N. WRIGLEY, same place.—*Cut-off Valve Gear.*—October 1, 1867.—The balance puppet valves are on one stem, the head pressure of steam being on their outer sides. The valve stem is operated by the bell cranks adjustably connected to the cam bar and to the governor rod. The cams are on a gear wheel rotated by the engine.

*Claim.*—The cams *d d* on the wheel H, the adjustable bar K, the bell crank J, and the rod *m*, arranged and operating substantially as described for the purposes set forth.

**69,527.**—JOHN N. WRIGLEY and GEORGE SMITH, Newark, N. J., assignors to JOHN N. WRIGLEY, same place.—*Steam Safety Valves.*—October 1, 1867.—The stationary valve is on a post attached to the shell, and the moving valve seat is attached to the stem, which receives pressure from the weighted lever. The seat has bearing on the stationary valve and upon an annular seat projecting upward within the shell.

*Claim.*—First, the construction and arrangement in the shell A, of the stationary valve B, movable valve seat C, substantially as herein set forth for the purpose specified.

Second, the construction and arrangement of the shell A, stationary valve B, movable valve seat C, stem E, and lever F, substantially as described for the purpose specified.

**69,528.**—B. C. YOUNG, Boston, Mass.—*Boot and Shoe.*—October 1, 1867.—Explained by the claim and illustration.

*Claim.*—A boot having buttons or knobs securely fastened to and projecting from the opposite outer surfaces of the leg near the top thereof, or in such position that by applying a fore finger under each button or knob, and a thumb to the inner surface opposite said button or knob, the boot may be securely grasped to pull it on the foot, substantially as set forth.

**69,529.**—ELIJAH YOUNG, Fayetteville, Mo.—*Harvester.*—October 1, 1867.—The grain is carried by the guiding reel to another reel having radial wings upon which the grain is received and dropped at the rear of the machine by its rotation, which is caused by a pawl thrown into action by a treadle.

*Claim.*—The adjustable disk *e*, in combination with the spring pawl and the ratchet, substantially as described and set forth.

**69,530.**—J. W. ADAMS, Elyria, Ohio.—*Grain Dryer.*—October 8, 1867.—The air is heated in a box within the furnace, and driven by a blower to the perforated chamber, which diffuses it through the dry house.

*Claim.*—The chamber D, pipe B and diffuser C, ar-



ranged in combination with the shell A for the purpose and in the manner substantially as set forth.

**69,531.**—ARTHUR BARBARIN, New Orleans, La.—*Lemon Squeezer.*—October 8, 1867.—The frame is clamped to a table. The lemon is received in a tilting cup, with a perforated bottom, and the plunger descends in vertical guides, and is returned by a spring.

*Claim.*—First, the combination of plunger K, when provided with the spring *b* and otherwise constructed, substantially as herein described, and the receiver A, when the latter is provided with the vibrating or tilting perforated diaphragm or bottom C, as and for the purpose set forth.

Second, the above combination, in combination with the frame B G H J, as herein described for the purpose set forth.

**69,532.**—H. BARBER, D. C. VAN BRUNT, and G. W. VAN BRUNT, Horicon, Wis.—*Seeding Machine.*—October 8, 1867.—A broadcast seeder. The seeding devices are operated by the wheels, are thrown out of gear by a lever, and graduated by another lever. A cultivator trails in the rear to cover the seed.

*Claim.*—First, the arrangement of the gear wheels I J K and lever F, and stop *f* beneath the machine, and remote from the wheels, for the purposes specified and substantially as described.

Second, the combination and arrangement of the axle G, gear wheels I J K, lever F, and stop *f*, operating substantially as and for the purposes described.

Third, the arrangement of the stop *f* with respect to the bent lever F and pinion J, substantially in the manner and for the purposes specified.

Fourth, the arrangement of the slide *m*, provided with the arm *n*, with the toothed lever N, as and for the purposes described.

Fifth, in combination with the last foregoing, the arrangement of the scale *o* and pointer *p* for the purposes set forth.

Sixth, the peculiar construction of the segment *k*, and its arrangement with the lever R for raising the plow, as and for the purposes herein described.

**69,533.**—G. W. BISHOP, Stamford, Conn., assignor to VEEDER COLEGROVE, Greenwich, Conn.—*Drilling Machine.*—October 8, 1867; antedated August 27, 1867.—The cut of the drill is regulated by a friction clamp in connection with a screw rod and arbor, and a friction wheel attached to the said rod. The work rests on a wheel supported upon an arm on the bracket; the latter is adjustable vertically by a pin, which enters one of a series of holes in the back plate, the bracket being then held to its adjustment by a lever clamp.

*Claim.*—First, the combination of the arbor C, screw rod D, wheel G and friction clutch I, arranged and operating as herein shown and described.

Second, the combination of cam lever P with the bracket J, perforated back plate K and pins *o* and *m*, substantially as and for the purpose herein specified.

Third, the combination of the arm L and plate M, with the bracket J, constructed and arranged substantially as and for the purpose specified.

**69,534.**—WM. BLAKEY, Baltimore, Md.—*Malt Kiln.*—October 8, 1867.—The grain is stirred and turned by mechanical means, while exposed to the heat of the kiln. A furnace below and layers of steam pipe within heat the kiln, and the vapor generated is condensed in a separate chamber, which connects by a pipe with the dome.

*Claim.*—First, the provision in a malt kiln of mechanical appliances for stirring the grain, substantially as set forth.

Second, the combination of one or more steam pipes and a furnace for supplying heat in a malt kiln or grain dryer, substantially as and for the purpose set forth.

Third, the combination with a malt kiln of the worm E, and condenser F, substantially as and for the purpose described.

Fourth, a galvanized iron casing in a malt kiln for the purposes set forth.

**69,535.**—L. F. BROWN, Keokuk, Iowa.—*Gate.*—October 8, 1867.—The sections of the double gate are operated simultaneously from either side by turning a crank, which connects by a cord with a roller,

whose cord actuates the gate to slide it longitudinally. The apparatus actuating each section is so connected to that of the other that their motions are coincident.

*Claim.*—The cranks F F' with their cylinders, the posts E E', pulleys H I H' I' K K', the cylinders G G' and rope L L', or their substantial equivalents, combined and arranged as and for the purposes set forth.

**69,536.**—CHARLES H. BUCK, St. Louis, Mo.—*Cooking Stove.*—October 8, 1867.—Explained by the claim and illustration.

*Claim.*—Providing the doors of stoves with concavo-convex glass windows, secured within flaring openings through the stove doors by means of rings *h*, substantially as described.

**69,537.**—CHARLES H. BUCK, St. Louis, Mo.—*Heating Stove.*—October 8, 1867.—The fire chamber is capped with a contracted dome, which gathers the products of combustion; from the dome they are carried down again by the driving flue, encased by the outer jacket of the stove.

*Claim.*—The construction of the stove with a fire pot above the middle plate of the outer cylinder, such fire pot being surrounded by a perforated air chamber C, in combination with a perforated conic hood G', which has a cylindric terminus *a a*, all arranged and operating substantially in the manner and for the purpose described.

**69,538.**—THOMAS W. BUCK, Farm River, Mich.—*Churn.*—October 8, 1867.—The pivoted lever works the dashers vertically, the cream running back through the recesses in the side.

*Claim.*—First, the valve E with its removable sieve-like slide, when employed for the uses and purposes expressed.

Second, the arrangement of the valves D and E, constructed and operating substantially as shown, for the purposes set forth.

**69,539.**—FRANCIS BÜHLE, Newark, N. J.—*Paper File.*—October 8, 1867.—The papers being filed on the pins, the clamp is pressed upon the papers by the spiral spring to which it is attached.

*Claim.*—The paper file described above, consisting of the back *a* with pins set in its face, and clamp *b* with a slot or holes to receive said pins, said clamp being held at one end by the spring *c*, or its equivalent, and at the other end by a tapering bolt, which by its taper adjusts itself to the thickness of the papers inclosed, and holds the clamps tightly upon them.

**69,540.**—F. P. CANFIELD, Boston, Mass.—*Sash Lock and Support.*—October 8, 1867.—The spring bolts projecting from the sash engage in the recess in the casing. The friction roller stays the sash in any desired position.

*Claim.*—First, the combination as well as the arrangement of the friction roller W W and a bolt N N, substantially as described and for the purpose set forth.

Second, the friction roller W W, when made with the two cylinders W W connected by a smaller toothed axis V, in combination with the incline C, substantially as described and for the purpose set forth.

**69,541.**—CHARLES P. CLARK and LEWIS DELENT, Beaver Dam, Wis.—*Machine for Shearing Sheep.*—October 8, 1867.—The shears oscillate within the guards, being actuated by their geared connection with the hand crank.

*Claim.*—First, the revolving knives *e e*, substantially as set forth.

Second, the comb or series of guards H, substantially as herein described and for the purposes set forth.

Third, the revolving knives *e e*, the guards H in combination with the wheel *d*, the frame *a a*, and the gearing F, substantially as and for the purposes described.

**69,542.**—EDWARD B., JOSIAH S., and WILLIAM S. CLARK, Philadelphia, Pa.—*Steam Heater.*—October 8, 1867.—The steam is generated in the pipes in the furnace, an automatic valve regulating the supply of water to a uniform height in the fire chamber. Pipes carry the steam through adjoining rooms.

*Claim.*—First, the combination, substantially in the manner described, with an ordinary stove for warming



ing buildings, of a coil of steam pipes provided with an automatic feed valve, which supplies water as fast as evaporated, thus maintaining the water at a uniform level, preventing the burning of the pipe, and dispensing with an external steam drum.

Second, the combination, substantially as described, of the water drum and float valve with the heating coil and balancing pressure pipes, for the purpose of preventing pressure on the valve.

**69,543.**—HENRY T. CLAY, Philadelphia, Pa., assignor to himself and G. R. BLAKISTON, same place.—*Wood Lathe.*—October 8, 1867; antedated October 2, 1867.—The stuff is fed by grooved rollers into the trumpet mouth of the revolving hollow mandrel. The tool projecting from the internal periphery of the mandrel turns the blank into shape. The spring forms a stop for the strip, and its position indicates the time for its insertion between the feed rollers. The rollers which draw out the turned stick have circumferential depressions, which contain grooved annuli of rubber, which press with an adjustable force on the handle.

*Claim.*—First, the spring *e*, or its equivalent, arranged on the grooved wheel *F'*, as and for the purpose described.

Second, the construction of the wheels *U U'*, each consisting of two disks *r* and *r'* with an intervening ring of gum elastic, when the said disks can be adjusted toward each other for the compression of the ring, as set forth.

**69,544.**—F. W. COY, Boston, Mass.—*Turning Lathes.*—October 8, 1867.—The belt wheel is hung on the rear of the spindle head to save the wear in the bearing of the spindle.

*Claim.*—The combination and arrangement of the belt wheel *C*, the bearing *H H*, the cap *D*, and the spindle *B*, substantially as described and for the purpose set forth.

**69,545.**—AMASA CURTIS, Warren, Ill., assignor to himself, NATHL. BOOTHBY, and JOHN D. PLATT, same place.—*Grain Separator.*—October 8, 1867.—The fan gives an overshot blast through the shoes and sieves. A valve passing across the machine regulates the amount and direction of the blast. The shoe is vibrated on pendent springs, and has an opening through which the grain falls upon a screen that is hung to receive both a lateral and longitudinal movement and delivers the grain from the spout below.

*Claim.*—First, in combination with a shoe constructed as herein described, the arrangement of the spouts *F F* with the opening *c* into the same, in the manner and for the purposes herein specified and shown.

Second, the opening *m* in the rear end of sieve *I*, arranged in combination with the side spouts *F*, substantially in the manner and for the purposes set forth.

Third, the arrangement of the boards *K L* in such a manner as to bridge the opening *d* and discharge at opening *c* into side spouts *F*, substantially as and for the purposes described.

Fourth, in combination with the said false bottom *K L*, the sieve *J*, provided with the air-stop *J'*, arranged and operating as and for the purposes specified.

Fifth, the slide *M* and board *N*, when arranged in combination with the shoe provided with a close bottom, substantially as and for the purposes described.

Sixth, the arrangement of a series of fine sieves *R* below the sieves *P*, and terminating at and in combination with the side spouts *F*, substantially as and for the purposes set forth.

Seventh, in combination with an overshot fan blast, the arrangement of the regulating valve *C* so as to operate in the manner herein specified.

Eighth, the arrangement of an air-blast regulator *D* in combination with a grain-separator shoe, provided with a close bottom, substantially as described.

Ninth, the arrangement of the reversible feed regulator *B b* in combination with the hopper of a grain separator, as and for the purposes specified.

Tenth, suspending the shoe upon springs *S*, in combination with knuckles *s*, as and for the purposes set forth.

**69,546.**—DAVID W. DE FOREST, Brooklyn, N. Y.—*Trace Fastening.*—October 8, 1867.—The trace is

slipped over the slotted head of the stem and secured with a key.

*Claim.*—The construction of the head of the shank or stem of the fastener with its under side countersunk to receive the head of the pin, in combination with the same, substantially in the manner and for the purpose as herein specified.

**69,547.**—VIRGIL DRAPER, North Attleboro, Mass., assignor to OSCAR M. DRAPER, same place.—*Device for Manufacture of Watch Keys.*—October 8, 1867.—A piece of wire with recessed ends is placed within the shank holders, after which the annuli are driven on the necks. By means of the press the plungers with their dies are forced against the two opposite ends of the blank, so as to upset them and form the heads, the pipe projections, and the prismatic cavities thereof.

*Claim.*—The combination of the shank holders, the dies for forming the heads, those for forming the pipe projections, and those for forming the cavities in such projections, as set forth.

**69,548.**—GEORGE B. DURKEE, Alden, N. Y.—*Harness Snap.*—October 8, 1867.—The hook of the snap is hinged upon the inside of a hollow tube, and projects therefrom, so that when the hook is in one extreme position it entirely covers the open end of the tube, and when it swings into the opposite position the hook laps over the edge of the tube and permits the introduction of the ring to which the snap is connected. A spring keeps the hook closed, except when relieved.

*Claim.*—A harness snap, composed of the tube *A*, or equivalent, hinged hook *B*, and spring *D*, constructed, arranged, and operating substantially as herein described.

**69,549.**—GEORGE B. DURKEE, Alden, N. Y.—*Harness Snap.*—October 8, 1867.—The lever, when forced by the action of the springs into a position parallel to the shank of the hook, obstructs the opening thereof. When lifted from the shank it opens the hook and leaves a passage for the introduction of the ring to which the hook is to be attached.

*Claim.*—First, a harness snap, having a spring lever and stop *C*, constructed and operating substantially as herein described.

Second, the combination of the hook *A*, shank *A'*, stop lever *C*, and either one or both springs *B B'*, arranged substantially as herein set forth.

**69,550.**—GEORGE B. DURKEE, Alden, N. Y.—*Harness.*—October 8, 1867.—The length of the hames is regulated by telescopic joints, and they are attached at bottom by right and left hand eyelet screws and a coupling link.

*Claim.*—First, the telescope joint *N C*, constructed and arranged in the manner and for the purpose substantially as herein described.

Second, the link *D*, in combination with the adjustable loops *D'*, for the purposes and substantially as described.

Third, the slotted hook *E*, in combination with the hinged lever *E'*, constructed, arranged, and operating in the manner and substantially as herein described.

**69,551.**—R. N. EAGLE and WILLIAM F. GOODWIN, Washington, D. C., assignors to themselves and WILLIAM DUANE WILSON, Des Moines, Iowa.—*Machine for Separating the Exterior or Bark from the Interior or Pith of Sorghum and other Plants.*—October 8, 1867; antedated September 25, 1867.—Explained by the claims and illustration.

*Claim.*—First, a barrel or case adapted to receive and inclose the stalk or cane for the purpose of effecting a separation of the bark or woody substance from the pith or interior.

Second, a tube or tubes provided with a sharp edge or annular knife, on the small end, which enters the cane between the bark and the pith, thus separating the bark or exterior from the pith or interior parts of stalks or canes, constructed as described, and operated in any manner or by any means whereby the tube can be made to accomplish the purpose set forth.

Third, a yielding tube or collar *U*, hinged or attached to the plate *I*, or its equivalent, around the hole or mouth of the chamber of the barrel *A*, at one end, and held together by the spring *u*, or its equivalent.



lent, at the other end, and which collar incloses and hugs the small end of the tube B, thus forming a conductor which guides the end of the cane to and centers it on the end of the tube B, constructed and arranged to operate in the manner and for the purpose substantially as described.

Fourth, the piston or pistons H, with the rod or rods P, which operate in the chamber or chambers of the barrel or cases A, and serve to discharge the cane from the same, arranged to operate in the manner and for the purpose substantially as described.

Fifth, the handles O and O', bars Q and Q', levers L and L', arms K and K', wedge V, and pins V<sup>1</sup> and V<sup>2</sup>, and plate T', constructed and arranged to operate in the manner and for the purpose substantially as described.

Sixth, the cross head T, guide rod G<sup>4</sup>, bars or pitmen R and R<sup>1</sup>, cranks N and N', and shaft  $\alpha$ , arranged to operate in the manner and for the purpose substantially as described.

Seventh, the plates I I I, which serve as a means of attachment for the barrels A, and collar U, and, being securely attached to the under side of the platform F, serve to hold the barrels and collars in their places, arranged in the manner and for the purpose described.

Eighth, the hopper or hoppers J, and trough or troughs E, constructed and arranged in the manner and for the purpose set forth.

Ninth, the saws S' S', shaft W<sup>3</sup>, pulley W<sup>4</sup>, and platform W<sup>2</sup>, constructed as described, and arranged to operate in the manner and for the purpose set forth.

Tenth, the saws S S S, shaft W<sup>1</sup> and box B O X, constructed and arranged to operate in the manner and for the purpose described.

Eleventh, the platform or frame E to which the several parts of the apparatus are attached, arranged in the manner and for the purpose set forth.

Twelfth, the fork or spreader G, for the purpose set forth.

**69,552.**—FRANCIS M. EVERINGHAM, Lafayette, N. Y.—*Derriek*.—October 8, 1867.—One end of the rope is fastened to the drum and passes over the cross beam, running on grooved pulleys. By raising the lever the pawl engages in the ratchet wheel, when by pressing down on the lever, the wheel and drum turning, the rope and load are wound up.

*Claim.*—The described derriek, and all the parts as arranged.

**69,553.**—CORYDON A. FARGO, Soquel, Cal.—*Wagon Brake*.—October 8, 1867.—The brakes are attached to pivoted frames secured to the side boards, and they are pressed against the rear wheels through their connections with the lever in front, which is dogged on the ratchet bar.

*Claim.*—First, a brake, constructed with the arm E, and link G, together with the connecting rods D and I, having a variable connection with E and G, respectively, or their equivalents, operating substantially as and for the purpose herein described.

Second, the vibrating suspended arms  $e e$ , and the cross bar  $d$ , attached to the bar K, for producing parallel motion, substantially as herein described.

**69,554.**—JOHN FEDERHEN and WM. C. SHERMAN, Boston, Mass.—*Double Eye-glass*.—October 8, 1867.—The elastic pads come in contact with the nose and the grasp is tightened by the rubber band.

*Claim.*—A double eye-glass, provided with an elastic band attached to the arms for the purpose specified.

Also, the pressure bands or elastic pads G G', attached to the inside of the frame, substantially as herein described and for the purpose specified.

**69,555.**—FERDINAND FELDHIANS, Baltimore, Md.—*Hill Side Plow*.—October 8, 1867.—The board shank is bolted to the beam and the movable mold board to the shank. The share has no heel on the landside and is attached to the mold board by inner flanges on its vertical and horizontal edges and a bolt which passes into the shank. The segmental clevis may be attached for vertical or horizontal adjustment for depth or land.

*Claim.*—The construction, combination, and ar-

range of the board shank  $\alpha$ , and movable mold board  $c$ , as shown.

Also, the segmental clevis  $d$ , either horizontally or vertically arranged as described.

Also, the flanged share S, as constructed and applied.

**69,556.**—JOSEPH S. FORD, Philadelphia, Pa.—*Gas Burner*.—October 8, 1867.—The flow of gas is regulated by a partial rotation of the burner.

*Claim.*—The combination of the key  $a$ , and burner A, with the cove  $b$  of the base B, with vent holes  $d d$ , substantially in the manner described and for the purpose specified.

**69,557.**—WALTER K. FOSTER, Bangor, Me.—*Carriage Wheel*.—October 8, 1867.—The felloes are expanded as they shrink by right and left screws that press against the intermediate plates. The metallic shoe is attached by screws and cores and preserves the connections.

*Claim.*—The arrangement of the ends of the felloe, substantially as above described, viz: so as to be supported by the ends of the male contracting screws, or by plates of metal, separate from the nuts, and placed between the two, and sustained by such screws.

Also, the formation of the braces  $h$  of the nuts, with recesses  $i i$  in the inner sides, such being as and for the purpose set forth.

Also, the tire, as made with its inner surface concave transversely to fit to a corresponding convexity of the felloe, as set forth.

Also, the formation of the block E, with the peculiar recess  $r$ , or its equivalent, in combination with the formation of the nuts with counterparts to enter such recess, as set forth.

Also, the combination of the braces  $h h$ , with the tire A, the nuts D D, and the right and left screw thereof, arranged substantially in manner and so as to operate as set forth.

**69,558.**—WILLIAM H. FOSTER, Portsmouth, N. H., assignor to himself and MICHAEL R. PERKINS, same place.—*Steering Apparatus*.—October 8, 1867.—The apparatus has a duplex action operating on the tiller from both ends so as to balance its forces.

*Claim.*—The arrangement and combination of the two windless pulleys E F, and their ropes  $b b^1$ , and four leading blocks G, with the single hand wheel shaft C, and with the tiller T extended in opposite directions from the rudder head A, the whole being substantially as hereinbefore explained and as represented.

**69,559.**—J. GALE, M. B. AMES, and F. BLAISDALE, Lawrence, Mass.—*Carriage*.—October 8, 1867.—The hinged seat is supported on pivoted legs that are maintained in position by their lock braces. The seat folds forward to allow access to the back seat, and folds back into the box when not required.

*Claim.*—First, the lock braces  $d d'$  in combination with the standards B B, having projections C C', substantially in the manner as and for the purposes set forth.

Second, the connecting rod P, in combination with the lock braces  $d d'$ , substantially in the manner described and for the purposes set forth.

**69,560.**—J. WOODMAN GERRISH, Bethel, Maine.—*Cant Hook*.—October 8, 1867.—The hook is pivoted to lugs attached to the socket of the handspike; a pike is sunk into the end of the handspike.

*Claim.*—The combination of the metallic socket  $d$ , the staff  $a$ , hinged projection  $e$ , and pike head  $b$  with the cant hook  $c$ , when constructed and arranged substantially as described.

**69,561.**—CHARLES K. GILES, Chicago, Ill.—*Cuckoo Clock*.—October 8, 1867.—The arbor of the minute hand rotating once each hour has upon it a cam that hourly raises the wire and rotates the shaft to which it is attached, and which, connecting by a wire with a cam on the post, rotates the radial arm, which carries the cuckoo through the window in the case. The clock simultaneously strikes the hour.

*Claim.*—First, supporting the cuckoo or its equivalent upon a single vertical post, arranged as described and shown, and provided with a cam  $f$  and cross arm



*e*, substantially in the manner and for the purposes specified.

Second, in combination with the post *D* and arm *e* the arrangement of the cam *G* and wheel *F* or its equivalent, substantially as and for the purposes specified and shown.

Third, the arrangement of said arm *e* and post *D* with the count wheel, substantially as herein set forth.

Fourth, in combination with the post *D*, provided with a projection *g*, the arrangement of a spring *s*, operating substantially as shown and described.

**69,562.**—WILLIAM B. HAYDEN, Columbus, Ohio.—*Trace Buckle*.—October 8, 1867.—The open frame buckle has a self-adjusting tongue and the end strain of the trace elamps, the latter so as to relieve the pin of a part of the strain.

*Claim.*—First, the construction of the tongue *C* with the bulge *e*<sup>1</sup>, for the purpose described.

Second, the combination of the bar *d* and the bulge *e*<sup>1</sup> of the tongue *C* for the purpose described.

Third, construction of the lever *D* with the bar *k* as and for the purpose described.

Fourth, the buckle, constructed and operating in the manner herein described.

**69,563.**—AUGUST HERDE, Baltimore, Md.—*Wrenching Bungs out of Barrels*.—October 8, 1867.—The projecting bung of a beer barrel is grasped by the serrated jaws and extracted by a draw twist.

*Claim.*—The above instrument, when constructed as described and for the purpose set forth.

**69,564.**—FREDERICK G. HESSE, San Francisco, Cal.—*Amalgamator*.—October 8, 1867.—Explained by the claim and illustration.

*Claim.*—First, separating, as to size, by means of the separating channel *h*, wherein the particles are acted upon by the two opposing forces—centrifugal force and resistance of a current of water, said current being produced by a centrifugal head, and made adjustable in the manner and for the purpose substantially as described.

Second, combining separation with grinding in order to prevent the grinders from acting upon particles already fine enough, substantially in the manner as described.

Third, the revolving amalgamating chamber *A*, in combination with the current of water, as described.

Fourth, the discharge *T*, in combination with the filtering chamber *F*, and a current of water produced by centrifugal action for the purpose and in the manner substantially as described.

Fifth, the annular channel *g e*, formed behind the grinding surfaces and in combination with the annular disks *a a*, forming an annular channel under *C*, which communicates with *g* for the purpose of producing, by centrifugal action, an upward current therein, the strength of which may be regulated by the dimensions of *n*, for the purpose substantially as described.

**69,565.**—WM. HUGHES, Brandon, Wis.—*Spring Seat for Vehicles*.—October 8, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination, substantially as described, of a seat capable of moving freely vertically between its guides, with a series of supporting cylindrical rubber springs, arranged sidewise within their guides.

Second, the combination, as described, of the rubber cylinders, with the shelves sliding vertically in their guides.

Third, making the lower tier of springs of larger diameter than the upper, as described, for the purpose set forth.

**69,566.**—C. B. LITTLEFIELD, Boston, Mass., assignor to himself and T. W. PORTER, same place.—*Gas Cock*.—October 8, 1867.—The central position of the cock is at full open, and at the extremes of its movement is respectively closed and nearly closed. In the latter position it is "turned down," or furnishes a small night light.

*Claim.*—A gas cock *D* and joint *A*, so constructed and arranged that when the cock *D*, being open, is turned to a stop in one direction, it will shut the gas

entirely off, but when turned to a stop in the opposite direction, will nearly but not entirely shut off the gas.

**69,567.**—SETH LOCKWOOD, Holley, Mich.—*Washing Machine*.—October 8, 1867.—The beaters are in form of triangular prisms, and are oscillated at the ends of their pendent rods by connections to a compound crank rod.

*Claim.*—The body *A*, provided with washboards *B*, in combination with blocks or beaters *D D*, shafts *g g*, pitmen *h h*, and the double crank rod *E*, when the whole are constructed, arranged, and operating as and for the purpose herein set forth.

**69,568.**—M. F. MAGLIOCCO, Philadelphia, Pa.—*Heating Furnace*.—October 8, 1867.—The casings and pipes conduct the heated air to the furnace.

*Claim.*—First, a series of vertical tubes *c*, arranged within an air chamber *B*, in combination with exterior tubes and casings through which the products of combustion pass from a fireplace to a flue, substantially as and for the purpose described.

Second, the combination of a cylinder *A*, containing a fire-place casing *C D* and tubes *c e*, the whole being constructed and arranged within an air chamber, substantially as and for the purpose set forth.

Third, a plate *g*, arranged within the air chamber *B*, in respect to the cylinder *A* and openings *u*, substantially as and for the purpose set forth.

**69,569.**—JOHN MATHIUS, Pemberton, Ohio.—*Beehive*.—October 8, 1867.—The aperture between the inclines is the main entrance for the bees, and offers difficulties in the way of the inroads of moths. The adjustable passages lead the way to the supplementary hive.

*Claim.*—First, the hive *A A'* and case *C*, with their openings *a a'* *b b'* and *f*, arranged as set forth, in combination with the tube *c*, substantially as and for the purpose described.

Second, the inclined planes *H H*, in combination with the hive *A* and tube *c*, substantially as and for the purpose set forth.

**69,570.**—MORRIS MATTSON, New York, N. Y.—*Coupling for Vacuum Cups, Breast Pumps, &c.*—October 8, 1867.—The elastic chamber partially exhausts the air in the cup for cupping and other purposes.

*Claim.*—First, the use and application of the elastic collar and cap *A*, for coupling or connecting the different parts of vacuum cups, breast pumps, and other instruments, substantially as described.

Second, the arrangement of the rigid plug *D*, or its equivalent, in combination with such elastic and adjustable coupling, substantially as set forth.

**69,571.**—DANIEL E. MCSHERRY, Dayton, Ohio.—*Rice or Seed Drill Tooth*.—October 8, 1867.—The elliptical tooth terminates in a rectangular discharge end between the furrower and coverer which are attached to the tooth.

*Claim.*—First, the construction of a rice drill tooth of the form substantially as shown and described, and with a transverse ridge *a* upon the inside of its back plate.

Second, the construction of the adjustable drag or coverer *D* upon the back of the tooth, substantially as described.

**69,572.**—WM. T. MESSEREAU, Newark, N. J.—*Curtain Fixture*.—October 8, 1867.—The cap-like projections receive the point of the pawl which is attached to the sliding knob plate.

*Claim.*—Combining with the knob and pulley the circular plate, spring, and rack, provided with the cap-like projections, for the purposes set forth.

**69,573.**—JAMES E. MILLS, Brooklyn, N. Y.—*Manufacture of Chloride of Zinc*.—October 8, 1867.—The chloride of zinc is produced from ores of zinc containing oxide, carbonate, or silicate of zinc, by digesting the ores with muriatic acid at common temperatures. The chloride of zinc is freed from the gelatinous silica which is formed when the chloride is made directly from the silicate of zinc, as above, by heating and evaporating the water and excess of acid, and then adding water to redissolve the chloride of zinc. The iron and manganese are separated from



the chloride of zinc that is made directly from the ore when they exist in proportions injurious to the product by drying the digested mass and heating it with free access of air, whereby the iron and manganese are highly oxidized, and thereby capable of being separated therefrom.

*Claim.*—First, producing the chloride of zinc directly from such ores as contain either the oxide of zinc, carbonate of zinc, or silicate of zinc, by digesting such ores with muriatic acid, substantially as hereinabove set forth.

Second, freeing the chloride of zinc from the gelatinous silica which is formed therein, when the said chloride is produced from the silicate of zinc, as above, by evaporating the water and excess of acid therefrom, and redissolving the chloride of zinc, substantially as described.

Third, separating the iron and manganese from the chloride of zinc, made directly from the ores when they exist in proportions injurious to the product, by drying the digested mass, oxidizing to a high degree the iron and manganese and redissolving and drawing off the chloride of zinc, substantially as and to the effect hereinabove specified.

**69,574.**—JAMES MILNE, Perthshire, Scotland.—*Car Coupling.*—October 8, 1867.—The coupling is effected by the lifting plate on one shaft engaging in the pivoted hook on the other.

*Claim.*—First, the pivoted cross-head B, shaft C, plate D, and hook E, in duplicate for coupling ears, arranged and combined substantially as described.

Second, in combination with the above, the rod G, projecting horizontally or vertically, as described.

**69,575.**—JOHN MOTT, Danville, Cal.—*Implement or Wrench.*—October 8, 1867.—The combined wrench hammer and vice has a pocket in the handle for holding small tools, which are clamped in the vice when used.

*Claim.*—The above-described wrench or implement, constructed and arranged to operate as and for the purposes set forth.

**69,576.**—JOHN NICHOLSON, Allegheny City, Pa.—*Feed-water Heater.*—October 8, 1867.—The water jacket around the steam chamber has a pipe which is connected with the injector and the steam boiler. The steam passes through the heater on its way to the injector and heats the water on its passage from the injector to the boiler.

*Claim.*—A water heater for steam boilers, when constructed, arranged, and operating substantially in the manner herein described and for the purpose set forth.

**69,577.**—JOHN O'CONNOR, Buffalo, N. Y., assignor to himself and E. M. KETCHUM, same place.—*Lathe Chuck.*—October 8, 1867.—The horizontal jaws are adjusted by a screw passing vertically through them and supported within a vertically adjustable frame. The whole is connected to the saddle plate of the side rest of a lathe.

*Claim.*—A bolt-centering chuck for lathes, constructed, arranged, and operating in the manner and for the purpose substantially as herein described.

**69,578.**—NATHAN PAGE, Jr., Danvers, Mass.—*Pump.*—October 8, 1867.—The piston is tubular and surmounted by an open-ended, tubular handle, to which hose may be attached. The cylinder has holes near the top which discharge any water which has leaked around the plunger within the outer corrugated case, at whose bottom it is returned to the water vessel.

*Claim.*—The combination and arrangement of the corrugated covering E, the barrel A, one or more openings e and the tubular plunger B opening into the handle C through the tube B', all substantially as described.

**69,579.**—JOSIAH FOREMAN PALMER, Auburn, N. Y.—*Reel.*—October 8, 1867.—The slotted reel is adjusted to the length required, and is tilted by its pivoted connection in the curved slot to alter its inclination.

*Claim.*—First, the combination of a reel or swift with the pivoted adjustable plate and clamp or frame for supporting the same so that the said reel or swift may be tilted or adjusted to different angles of incli-

nation with respect to the said clamp or frame, substantially as and for the purposes set forth.

Second, the combination with the slotted clamp or holding frame of the adjustable plate for supporting the spindle, and the screw and thumb nut for adjusting and holding the said plate in position, substantially in the manner and for the purposes specified.

Third, the combination with the arms of a reel or swift, such as described, of a knob or handle, constructed and arranged as specified so as to be adjusted and held at any desired point upon the said arms.

**69,580.**—DAVID PANGLE, Belmont, Ohio.—*Sheep House.*—October 8, 1867.—The sections are fastened together with screw bolts so as to form a sheep-house that can be taken to pieces for removal from place to place.

*Claim.*—An improved sheep-house of any required length, height, and width, constructed and put together with panels G, Figs. 1 and 2, or sections held together by tenons B on ends of stringers A and pinned with movable pins C, &c., after the plan and in the manner set forth in the foregoing specifications.

**69,581.**—J. D. PATRICK, San Francisco, Cal.—*Ball Alley.*—October 8, 1867.—The spring targets are connected to bells for identification of the one hit, and have faces to throw the balls to the inclined side passages along which they are returned to the player.

*Claim.*—The above described arrangement of the targets D and oblique backs C, in combination with the alley A and return alley B, substantially as set forth.

**69,582.**—WILLIAM P. PATTON and JACOB R. MILLER, Harrisburg, Pa.—*Oil Cup.*—October 8, 1867.—The spindle stops the vent of the oil cup, which is released by the action of the screw-driver on the spindle.

*Claim.*—The peculiar combination and arrangement of the adjustable spindle or plug a with the shank c of an oil cup, constructed and operating substantially as described.

**69,583.**—T. S. PHILLIPS, Casadaga, N. Y., assignor to himself and M. J. BELLOWS, Dunkirk, N. Y.—*Animal Trap.*—October 8, 1867.—The rotating platform has a latch and bait bar at each end, and a spring and catch so arranged that, as the rat passes over the platform and seizes the bait, he unfastens the latch bar and is precipitated into a tight box below.

*Claim.*—An animal trap having a revolving table A, provided with catch and bait bars C at each end and upon opposite sides thereof, coil spring F, spring catch c<sup>2</sup>, and stop pin d, constructed and operating substantially as herein described.

**69,584.**—THOMAS PLUMLEIGH and CHARLES PLUMLEIGH, Dundee, Ill.—*Converting Circular into Reciprocating Motion.*—October 8, 1867.—Two wheels rotating with the same axle have counterpart angular projections and depressions, and act alternately to throw a lever to the right and left by means of a block upon the same, which has similar projections to those upon the wheels.

*Claim.*—The device to convert circular into reciprocating motion, consisting of two wheels A A supplied with triangular eogs or cams B B, and secured to an axle or shaft c in such a manner that the eogs of one wheel are directly opposite to the recesses of the other wheel, and the slide p shaped to fit the recesses of the eogs B B, and of the length equal to the space between the projecting points of the eogs of one wheel and the receding points of the eogs of the other wheel, said slide being supported by means of a bolt G playing in a slotted box D, or some other equivalent means, the whole constructed and operating substantially as and in the manner herein described and specified and for the purposes set forth.

**69,585.**—C. H. POND, Oberlin, Ohio.—*Telegraph Apparatus.*—October 8, 1867.—Intended to obviate the difficulty of operating from imperfect insulation of the wire in damp weather. Instead of stopping the forward movement of the armature lever by a fixed point, it is stopped by a spring or springs of



power equal to that of the electric current, whether small or great.

*Claim.*—First, a hinged or jointed self-adjusting connection for completing, working, or governing the local circuit, constructed substantially in the manner described.

Second, the hinged and self-adjusting leaved spring *o o'* for regulating the movement of the armature lever, when arranged substantially as described.

Third, a double local connection by means of a three leaved spring *o'*, to be brought into action under the influence of a strong current.

Fourth, the reacting springs *o*, in combination with the armature lever *b*, helices *a a'*, and adjusting screws *e k*, substantially as and for the purpose set forth.

Fifth, the jointed forker *w'*, spring *g*, connecting screw *h*, in combination with the armature and reacting springs *o o*, substantially as and for the purpose set forth.

**69,586.**—JOHN G. POWELL and WILLIAM A. MORSE, Philadelphia, Pa.—*Broom Holder.*—October 8, 1867.—The coil spring of the arms is secured in a socket piece attached to the wall.

*Claim.*—The extended arms *m m*, made from one continuous piece of wire, coiled or otherwise, bent to produce sufficient spring, in combination with the base B, substantially as shown and described and for the purpose set forth.

**69,587.**—SILAS S. PUTNAM, Dorchester, Mass.—*Clothes' Hook.*—October 8, 1867.—The bracket has a side slot allowing the passage of the hook shank, when connecting the pieces together for attachment to the wall. The hook admits of folding to the wall, but drops into a recess of the socket, when extended, to retain it in that position.

*Claim.*—The bracket A, with its recess *e*, and slot or opening *e*, in combination with the hook C or D, constructed and operating substantially as described.

**69,588.**—JACOB G. REIFF, Farmersville, Pa.—*Carriage Spring.*—October 8, 1867.—The strain on the springs is divided at shorter intervals by increasing the number of leaves of a reduced thickness.

*Claim.*—The arrangement and construction of circular or elliptic springs by decreasing the thickness of the leaves or plates, multiplying and increasing their number and making the plates tapering gradually, substantially as and for the purpose set forth, the spring to be made of wood, iron, steel, or any material, and for the purpose set forth in the specification.

**69,589.**—NATHAN H. RICHARDSON, Fitchburg, Mass.—*Machine for Dressing Rattan.*—October 8, 1867.—The stop is connected with the mechanism by which the scraping knives are operated, to prevent the first joint of the rattan from being carried past the scrapers until they come in contact with the rattan, thus insuring the scraping off of the first joint.

*Claim.*—The stop J, in combination with the head G and a series of scrapers *m*, operating substantially as described for the purpose set forth.

**69,590.**—JAMES ROSS, Somerville, Mass., assignor by mesne assignments to WILLIAM ADAMS, same place.—*Preparing Paper, Pasteboard, and Other Material to be used as Packing for Steam Engines.*—October 8, 1867.—The paper is saturated with a composition made of crude petroleum, 2 parts, benzine, 2, and boiled linseed oil, 6, to strengthen and solidify it for packing steam joints.

*Claim.*—The composition herein described, whether composed of one or more or all of the ingredients named, as and for the purpose specified.

**69,591.**—LUTHER M. SABIN, St. Louis, Mo.—*Hydraulic Engine.*—October 8, 1867.—The cylinders communicate at their bottoms with a tank containing water under pressure. The forward movement of the piston closes the communication between the tank and cylinder and opens an escape port.

*Claim.*—First, the combination of vat A and pipes, vat B, and cylinders C C', piston E E', rods D D', lever M, valves F F' and K K', and rods H H', as above named and described and for the purpose set forth.

Second, the combination of cylinder C C', pistons

E E', bars D D' and H H', valves F F' and K K', and lever M, as above named and described and for the purposes set forth.

**69,592.**—SAMUEL SHREFFLER, Joliet, Ill.—*Brick Machine.*—October 8, 1867.—The radial arms on the vertical shaft mix the clay, which is plunged into the molds below; these are removed as filled, and others substituted.

*Claim.*—The combination of the shaft *b*, provided with the radial mixers, with the double inclined spiral plane *e* and friction rollers *f f*.

Also, the carriage *g* of the peculiar shape and construction shown, in combination with the dogs *i i* and rod *l*, with operating lever *m*, when arranged and operating substantially as described.

**69,593.**—JAMES D. SMITH, Richmond, Ind.—*Straw Cutter.*—October 8, 1867.—The hanging knife has a draw cut from projections on its rectangular arm, which enter radial grooves of a rotating or oscillating cam disk.

*Claim.*—First, operating the knife B by means of the tri-radial grooved disk or cam C, either with rotary or reciprocating motion, substantially as described.

Second, operating the feed by means of the knife, in combination with the lever and pawl, substantially as described and for the purpose specified.

**69,594.**—JOHN W. SMITH and THOMAS H. PHILLIPS, Washington, D. C.—*Manufacture of Illuminating Gas.*—October 8, 1867.—The feed of the coal gas retort is arranged to compensate for the diminution of the carbon in the gas generated during the latter half of the time the charge of coal is under heat, by feeding in the gas tar that is generated during the first half of the heating time.

*Claim.*—An improvement in making gas from coal tar, with the method above described, of determining the quality and quantity of gas at any time of the operation by the use of the stop cock H, as represented and described.

**69,595.**—FLAVIUS J. UNDERWOOD, Rock Island, Ill.—*Pump.*—October 8, 1867; antedated September 21, 1867.—In this submerged pump the water enters the barrels alternately, and the up stroke of each piston closes the valve in the piston against the induction opening, while the water escapes by the trap valve way into the central eduction tube.

*Claim.*—The cylinders A, top chamber plate B, and discharge tube C, in combination with the trap valve F, substantially in the manner and for the purpose as herein set forth.

**69,596.**—JAMES H. VAN HOUTEN, New York, N. Y., assignor to NOAH W. KING and ALBERT CASWELL, same place.—*Burial Case.*—October 8, 1867.—The hermetically sealed case has attachments inside for securing the body, and plugged apertures by which gas is inserted for its preservation.

*Claim.*—First, a burial case or casket composed of two transverse parts A B, connected together by a screw, substantially in the manner as and for the purpose set forth.

Second, the slide D, in connection with the case or casket, constructed substantially as described.

Third, the combination of the plugs *e e* with the burial case A B and slide D, the whole made substantially as and for the purpose shown and set forth.

**69,597.**—G. WALTERS and T. SHAFFER, Phoenixville, Pa.—*Securing the Bars of Piles or Fagots.*—October 8, 1867.—The piles are keyed or clamped together so as permanently to secure the fagots to be rolled into craciform and other shaped iron.

*Claim.*—Securing the bars comprising the piles or fagots for cruciform and other shaped wrought-iron beams or girders by elamps, in the manner and for the purpose described.

**69,598.**—MOSES WALTON, Marlboro', Ohio.—*Churn, &c.*—October 8, 1867.—The adjustable vertical beaters are rotated by the horizontal extension arms.

*Claim.*—The adjustable beaters D, head C, in combination with the hollow shaft *a*, sleeve E, extension arms J, and clamp I, substantially as and for the purpose set forth.



**69,599.**—WILLIAM WHARTON, Jr., Philadelphia, Pa.—*Railway Switch*.—October 8, 1867.—Improvement on his patent June 27, 1865. When the pivoted switch rails of the turn-out are connected with the main track, the outer switch rail is inclined upward to raise the tread of its corresponding wheel and lift the flange above the level of the main rail at the point of transference.

*Claim.*—First, the combination of the permanent rails A and A' of the main track, the permanent rails B and B' of the turn-out, the switch rails D and D', (the former being inclined,) and the movable guard rail I, the whole being arranged and operated substantially as and for the purpose set forth.

Second, the switch rail D' and guard rail G, coupled together or forming a part of each other, in combination with the rails B and B', A and A', and switch rail D.

Third, the switch rails D and D' and guard rails G and I, in combination with the permanent rails A and A' of the main track, and the permanent rails B and B' of the siding, substantially as and for the purpose set forth.

**69,600.**—CHARLES W. WILLIAMS, Wyandotte, Mich.—*Corn Harvester*.—October 8, 1867.—After being cut by the knives, the stalks fall upon the oscillating tables, which are operated by levers and pivots, and when required are made to rotate and discharge their loads by means of the pivoted lever and its connecting cords.

*Claim.*—The combination of the driving wheels A A, provided with drums B B, the belts C C, pulleys D D, connecting rods E E, knives F F, cross heads H H, guide rods I I, oscillating tables K K, levers L L and M, rods N N, castor wheel W, seat Z, pole Y with the frame X X, arranged substantially as described for the purpose designed.

**69,601.**—H. WOODWARD, London, England.—*Knife Cleaner*.—October 8, 1867.—The jaws are hinged at their lower extremities and are drawn tightly together at the top by springs that draw the adjacent faces of the jaws against the knives as they are being cleaned.

*Claim.*—First, in a knife cleaner a series of jaws pivoted at or near their lower ends and held together at the top by a suitable spring fastening, substantially as set forth.

Second, the combination with the jaws A, bolt b, and spring band c, of the facings a a, of leather or other suitable substance, substantially as set forth.

Third, the combination with the jaws A, of the frame B, chamber C, and holes d d, substantially as set forth.

**69,602.**—JOHN T. ZIMMERMAN and HENRY BAKER, Lancaster, Pa.—*Plumb Lever*.—October 8, 1867.—A slotted segment is suspended on the axle of the index and connected with it by a screw, for adjusting the balance of the weighted end so as to centralize the index points to coincide with the true level of the base.

*Claim.*—First, the regulating plate G with its base h and slot i and binding screw H, in combination with the index F, provided with four points f f f f, constructed and operating in the manner specified.

Second, the arrangement of the united supports B B', by the cross plates C, in combination with the clamping screws E, when constructed in the manner and for the purpose set forth.

**69,603.**—ROBERT ADAMS, Cincinnati, Ohio.—*Blacking Brush*.—October 8, 1867.—Water is poured into the hole in the blacking chamber and the ball rolled around therein by shaking the brush. The blacking thus loosened runs through the hole when the brush is brought into working position.

*Claim.*—First, the application of the glass ball E, to the mixing the blacking, as specified.

Second, the mode of applying spring holders B B, spreading brush D, in combination with blacking box C, glass ball E, and recessed circle G in top of polishing brush for reception of blacking box C, as constructed and operating for purposes set forth.

**69,604.**—STEPHEN ALLEY and SAMUEL D. WILLIAMSON, Clifty, Ind.—*Automatic Wagon Brake*.—October 8, 1867.—The longitudinal section of the

reach, as it slips in the hind axle when the horses hold back in descending a hill, brings the brakes against the hind wheels, the bed traversing on rollers on the bolsters.

*Claim.*—First, the combination of the hind axle B, braces C, reach A, and links D, arranged to operate substantially in the manner and for the purpose set forth.

Second, in combination with an automatic wagon brake the bed F, and bar I, with or without the rollers G, substantially as and for the purpose set forth.

**69,605.**—J. A. ALTHOUSE, New Harmony, Ind.—*Scissors and Button-hole Cutter Combined*.—October 8, 1867.—The additional blade is pivoted to the same rivet, and has an edge the length of a button hole, and cutting against the back of one of the other blades.

*Claim.*—A button-hole cutter B, attached to a pair of scissors by the same rivet a, when constructed and operating as herein shown and described.

**69,606.**—JAMES ANTHONY, Ledyard, N. Y., assignor to CYRENUS WHEELER, Jr., Auburn, N. Y.—*Harvester*.—October 8, 1867.—Both frames are hinged to the main axle, and each has a lever; one of the latter crosses the joint between the frames and moves near enough to the other to interlock and stiffen the joint and lift up and carry the cutting apparatus upon the wheels.

*Claim.*—In combination with a frame in two parts and hinged to the main axle as a common center, the two levers E G, one on each frame and operating conjointly to raise or hold in a raised position the rear frame and cutting apparatus connected to it, substantially as described.

**69,607.**—HORATIO ARTHUR, Martinsburg, N. Y.—*Machine for Grating Vegetables*.—October 8, 1867.—The hinged hopper being brought into position, and the roots placed therein, the follower is pressed upon them by the lever and the grater wheel rotated by the hand crank.

*Claim.*—The combination herein described for grating vegetables, using for that purpose the arrangement illustrated and specified.

**69,608.**—G. W. BALDING, Angola, Ind.—*Feeding Rack for Cattle*.—October 8, 1867.—The square box has diagonal boards whose edges rest upon its corners, and are fastened to the posts, which are prolonged upwardly for that purpose.

*Claim.*—The notched interlocking boards crossing the box diagonally and projecting beyond the sides of the same, and secured to the upright posts in the corners of the box, in combination with said box, all constructed and arranged as described and shown for the purpose specified.

**69,609.**—OREN BALDWIN, Keokuk, Iowa.—*Wash Tub Attachment*.—October 8, 1867.—The cross bar is clamped to the tub and forms the upper support of the vertical shaft. The beater attached to the oscillating shaft has two faces which alternately press the clothes against the respective sides of the perforated board which projects from the inside surface of the tub.

*Claim.*—A washing tub attachment having the center shaft B, handle I, cross piece C, and the beater F, with its faces G G', to press the clothing against the board H, together with the board K, all arranged as specified.

**69,610.**—LEVI B. BALL, Dayton, Ohio.—*Horse Rake*.—October 8, 1867.—The housing is attached to the rock bar and forms a case for the attachment end of the tooth, and for the spring which depresses it. The slot in the outer end of the housing forms a guide for the tooth.

*Claim.*—The housing B, constructed and operating as described, in combination with spring F, tooth C, plate D, bolt E, and nut G, substantially as and for the purposes set forth.

**69,611.**—WILLIAM W. BALLARD, Davisburg, Mich.—*Land Roller*.—October 8, 1867.—The bars to which the rollers are journaled are pivoted to ears below the forward bar, and passing between the rollers are bulged to meet the axles; thence passing to



the rear they protrude through the rear transverse bar.

*Claim.*—Arranging a series of rollers C C to the frame A, by means of the bars H, constructed as set forth and for the purposes described.

**69,612.**—OSCAR M. BARTHOLOMEW, Elmira, N. Y., assignor to himself and W. P. SHERMAN, same place.—*Roofing Compound.*—October 8, 1867.—Equal parts of calcined plaster of Paris, hydrate of lime, mineral paint, and marble dust are mixed with coal tar to make an adhesive paste for application to paper or other roofing.

*Claim.*—A composition of matter compounded from the ingredients named, in the manner substantially as and for the purpose set forth.

**69,613.**—JOSEPH M. BATCHELOR, Foxcroft, Me.—*Sawing Machine.*—October 8, 1867.—The treadle is pivoted to the frame, and when operated raises the saw horse so that it may be revolved for convenience in adjusting the wood upon it.

*Claim.*—The arrangement of the horse N, rod O, and treadle bar P, as and for the purpose specified.

**69,614.**—JAMES B. BEAN, Baltimore, Md., assignor to himself and A. H. BALDERSTON, same place.—*Constructing Molds for Casting Aluminium Plates for Artificial Teeth.*—October 8, 1867.—A thin metallic impression cup is coated with shellac and flocked with cotton to receive a thin coat of plaster to obtain an impression of the jaw. A model of plaster is cast in this. After varnishing, a sectional mold in intaglio is taken of this. This is varnished, and a cameo mold taken of it in pumice stone and plaster. This forms a matrix in which the plate is produced, and forms a part of the mold in which the aluminium is cast. The process gives a gradual enlargement, and compensates for the cooling of the cast plate.

*Claim.*—First, the thin metallic impression cup C, for the purpose specified.

Second, the use of the model B made in several pieces, substantially as and for the purpose described.

Third, the process of constructing molds for casting aluminum plates for artificial teeth, substantially as above described.

**69,615.**—JAMES B. BEAN, Baltimore, Md., assignor to himself and A. H. BALDERSTON, same place.—*Securing Artificial Teeth to Cast Plates.*—October 8, 1867.—The teeth are fitted into recesses of the aluminum plate; a groove between the teeth and the plate, into which the teeth pins project, is afterwards filled with melted tin.

*Claim.*—First, the dental plate cast of aluminum, or other similar metal, having the recesses E E, and the channel *e' e'* behind the teeth when they are in position, substantially as described.

Second, the process above described of forcing melted tin or other metal around the teeth and platinum pins, as and for the purpose specified.

Third, the use of melted tin for the purpose of filling the channel or cavity *e' e'*, and attaching the teeth having platinum pins as for vulcanite work to a metallic plate, as and for the purpose herein shown and described.

**69,616.**—JOSEPH E. BILLINGS, Belmont, Mass., assignor to himself and FREDERIC H. MOORE, Boston, Mass.—*Automatic Blotter.*—October 8, 1867; antedated September 12, 1867.—A sheet of blotting paper lines the insides of the covers, which are closed by a spring.

*Claim.*—The combination of the covers, the blotting paper, and the spring, or its equivalent, substantially as and for the purpose described.

**69,617.**—LUZERNE M. BOLLES, Cooperstown, N. Y.—*Bed Bottom.*—October 8, 1867.—The rods at head and foot have hooks which support the ends of the slat frame; tension is given by twisting the rods, whose torsional recoil forms the spring.

*Claim.*—The combination of irons B, rods C, key blocks D, keys E, hooks F, links H, and cross-bar G, or their equivalents, with each other and with the bedstead A, arranged as described and set forth for the purpose specified.

**69,618.**—A. T. BOON and J. STAFFORD, Galesburg, Ill.—*Composition for Saturating Paper and other Fabrics.*—October 8, 1867.—Improvement on the patent of A. T. Boon, March 12, 1867. Paper or felt for roofing is saturated with saccharine matter combined with coal tar and silicate of alumina.

*Claim.*—The application and use of saccharine matter employed, substantially in the manner and for the purpose as herein specified.

**69,619.**—HENRY BOSCH, Mount Vernon, N. Y.—*Latch Lock of Doors.*—October 8, 1867.—The bolt can be locked in or out by operation from the inside of the door. The knob is attached to the bolt lever and depresses its end into either of the notches in the plate. When free, the bolt is shot by the spring lever.

*Claim.*—The spring lever *e*, in combination with the double lever *c*, pivoted to the latch bolt *a*, and provided with the knob *b*, for the purpose of locking the said spring latch bolt in either a closed or open position, substantially as described.

**69,620.**—COURTLAND BOYER, Marshall, Mich.—*Churn.*—October 8, 1867.—The perforated dashers incline forward to cause a vortex downward and lessen the tendency of the cream to escape under the lid.

*Claim.*—A churn dasher with inclined perforated slats F, operated in connection and combination with a churn box B, substantially in the manner and for the uses set forth.

**69,621.**—JOHN F. BOYNTON, Syracuse, N. Y., assignor to HENRI L. STUART, New York City.—*Gas-light Multiplier.*—October 8, 1867.—The air or gas is passed through a chamber containing volatile hydrocarbon liquid; absorbent strips of cloth are suspended upon rollers above; their ends hang in the liquid and their saturated surfaces are exposed to the passing air.

*Claim.*—First, a closed box containing capillary material or its equivalents, with entrance and exit tubes so as to charge gas with volatile hydrocarbons, substantially as described.

Second, a box with a lid and close joints, so as to form a carbureting chamber for gas, substantially as described.

Third, a close chamber or box with cloth or other capillary material on rods or supports, substantially as described.

**69,622.**—DAVID BROOKS, Philadelphia, Pa.—*Insulator for Telegraphs.*—October 8, 1867.—The shank of the hook is imbedded in melted sulphur in a flattened glass bottle which is similarly imbedded in a metallic case and paraffine poured over the sulphur in each case.

*Claim.*—First, the combination, substantially as described, of a vessel or tube of blown glass with a telegraphic wire insulator, for the purpose described.

Second, a wire holder A, and case B, in combination with a tube or vessel C, of blown glass, arranged between the holder and case and insulated from both, substantially as and for the purpose specified.

Third, a recess *y* arranged between the case B, and holder A, and containing paraffine, for the purpose set forth.

Fourth, a detachable cylinder D, arranged in respect to the holder case B, and vessel C, and insulated from the same, substantially as and for the purpose set forth.

**69,623.**—A. H. BROWN, Springfield, Vt.—*Churn.*—October 8, 1867.—The oblique, longitudinal sectional cylinder rotates over the irregularly curved bed of the churn.

*Claim.*—First, the angles in the cylindrical portion of the churn marked *a'*, substantially as described.

Second, the dasher E, forming an oblique longitudinal section of a cylinder attached to the arms as shown, and operating substantially as and for the purposes described.

Third, in combination with the dashers E, the scrapers *b*, attached to the arm D, substantially as shown and described; also the latch *i* and button *k*, as and for the purpose set forth.

**69,624.**—M. M. BROWN, Pimento, Ind.—*Churn.*—October 8, 1867.—The cord being wound round the



vertical shaft gives an alternating motion to the dasher by periodically pressing the horizontal bar so as to wind and unwind the cord.

*Claim.*—The bar G, cord H, balance wheel E, and shaft F, in combination with the churn and dashers, as herein set forth for the purpose specified.

**69,625.**—PARKER BURNHAM, Gloucester, Mass.—*Hawse Pipe.*—October 8, 1867.—The pivoted hawse pipe oscillates with the varying inclination of the cable.

*Claim.*—The adjustable hawse pipe B, arranged within the bow or side of the vessel, when constructed and operating substantially as and for the purpose set forth.

**69,626.**—JOTHAM G. CHASE, Springfield, Mass.—*Reversible Railway Ticket Safe.*—October 8, 1867.—The small, metallic safe is attached to the arm of a car seat, with two reversible compartments that hold one ticket, so that each person holding a seat can deposit a ticket therein.

*Claim.*—First, the arrangement in a railway ticket safe of the slotted cover or lid *a* with the base A, having the inclined, ribbed floor *g*, all constructed and operating substantially as herein described and set forth.

Second, the arrangement in the end H of the base of said railway ticket safe of the recess *u*, for the purpose and in the manner substantially as herein specified.

Third, a railway ticket safe, attached to the arm of a car seat, in such manner as that it shall be reversible, as described, and equally accessible upon either end of the arm of the seat, substantially as described and herein set forth.

**69,627.**—SIMON G. CHEEVER and JAMES FORGIE, Boston, Mass.—*Horse Collar.*—October 8, 1867.—The pads are secured to the collar to insure the engagement of the hames in the groove.

*Claim.*—The employment of such shaping piece, when applied and confined directly between the covering tube which confines the stuffing and the leather which forms the outer finishing cover.

**69,628.**—JOSEPH CHENOWETH and JOHN McLAIN, Auglaize county, Ohio.—*Belt Clasp.*—October 8, 1867.—The bolts passing through the seams of the straps bulge them, so that they are clamped in the curved, slotted clasps.

*Claim.*—The manner of construction of the clasp, as herein described, for the uses set forth.

**69,629.**—C. H. CLEVELAND, Selma, Ala.—*Suspender.*—October 8, 1867.—The shoulder brace meets at each end in a single attachment that buttons to the sides of the waistband.

*Claim.*—The suspender or shoulder brace, composed of two single straps C C, each passing from its attaching strap at the one side over the shoulder to the attaching strap on the other side of the body, substantially as herein described.

**69,630.**—JOHN F. COBURN, Newark, N. J.—*Hide Stretching Machine.*—October 8, 1867.—The hide is laid over a beam and the edges of its depending sides are depressed by clamps and toggles, which are operated by rack bars and pinions, the adjustment of the latter being maintained by pawls.

*Claim.*—First, connecting the frames A and B of a hide stretching machine by means of toggle levers, and operating the latter by ratchet bars D D' and pinions *f f*, substantially as herein shown and described.

Second, the frames A and B, when arranged as and in combination with the toggle lever C, ratchet bar D', obliquely-sliding board E, and lever *h*, all made and operating substantially as and for the purpose herein shown and described.

**69,631.**—MARTIN S. COLLAR, Marquette, Wis.—*Railway Water Elevator.*—October 8, 1867.—The passage of the train depresses the irons which project upward through notches in the rails, and the motion is communicated by bell cranks and rods to a piston. The gravitation valves consist of half cones, which clack together when the force of the current ceases to keep them apart.

*Claim.*—First, the combination and arrangement of the irons P, springs R, cross-bar L, bar M, bent lever K, connecting bar J, bent lever X, and piston rod E, operating as described, for the purpose specified.

Second, in combination with the above, the conical valve G, constructed as described, consisting of the leaves *g*<sup>1</sup>, hinged to opposite sides of the seat *g*<sup>2</sup> in such a manner that the water as it rises through the pipes will force the leaves back against the sides of the tube, said leaves reclosing by their own gravity, substantially as described, for the purpose specified.

**69,632.**—H. M. CONKLIN, Syracuse, N. Y.—*Bed Bottom.*—October 8, 1867; antedated October 2, 1867.—The longitudinal slats are suspended from the rails by elastic connections, and are additionally supported by a transverse slat and similar connections to the side rails.

*Claim.*—The combination of the bed rails *a a*, the traversing bar B, and the fastenings composed of the webbing D, slat protections E E, and the buttons F, all substantially in the manner described and arranged and for the purposes set forth.

**69,633.**—J. F. CONNELLY and W. B. HUGHES, Newark, N. J.—*Machine for Stretching Leather.*—October 8, 1867.—The pinion wheels on the crank shafts mesh into the racks and raise the movable beam and thereby stretch the hide that, passing over the beam, is secured to the footboards below. The spring bolts on the movable beam catch into ratchet bars to secure the beams in position when raised.

*Claim.*—First, the arrangement of serrated racks *e* and catches *f*, or their equivalents, in combination with the stretching beam B, substantially as and for the purposes set forth.

Second, the arrangement of hinges *c* in combination with the end pieces *a a* of the stretching frame A, substantially as and for the purpose described.

Third, making the stretching frames detachable from the power mechanism, substantially as and for the purpose described.

Fourth, the arrangement of racks D and pinions F in combination with the stretching beam B, constructed and operating substantially as and for the purpose set forth.

**69,634.**—W. W. CONNER, Nobleville, Ind.—*Smut Machine.*—October 8, 1867.—The wheat on a single passage through the machine is subjected to three blasts. The first blast accompanies the chaffing, the second the scouring, and the third is a dusting process.

*Claim.*—First, the combination and arrangement of suction blast spout I, consisting of the horizontal part *d*, provided with deflectors *f f'*, and vertical portions *e e'*, the discharge spouts J J', grain receiving and air tube N, fan case B, communicating with the vertical spout *e*, cylindrical screen F within the case G, communicating at one end by the funnel-shaped passage H with the screen B, and its other end communicating by spout P with the vertical spout *e'*, when all are constructed as described, whereby the grain at one passage through the machine is subjected to the action of three distinct blasts of air, as herein set forth.

Second, the valves Q R, constructed and applied within the suction blast spout, substantially as and for the purpose set forth.

**69,635.**—JAMES E. CRONK, Poughkeepsie, N. Y.—*Pump Valve.*—October 8, 1867.—The valve is attached to the vertical side of the plunger instead of horizontally, avoiding the collection of dirt.

*Claim.*—First, the valve D in excess of the length of cylinder it covers, in combination with the concave seat in the side of said cylinder, substantially as described and shown.

Second, in arrangement therewith the contraction of the cylinder to permit of the play of the valve, whether provided with the flaring cup or not, all substantially as shown and described.

**69,636.**—CHARLES J. CUSHING, B. F. WALLS, and WILLIAM A. WOOD, Hancock county, Ky.—*Tanning.*—October 8, 1867.—Composed of salt, 50 pounds; starch, 10 pounds; alum, 10 pounds; sulphuric acid, 8 pounds; to 100 gallons of water, and with the addition of a sufficient quantity of extract of bark.



*Claim.*—The vatting of and tanning in a cold liquid solution under one operation and in one compound vatting and tanning solution.

**69,637.**—ASAHEL DAVIS, Lowell, Mass.—*Device for Advertising.*—October 8, 1867.—The ease of drawers is placed in some place of public resort and the drawers are rented to advertisers. The answers to advertisements are inserted through slides in the front of the drawers.

*Claim.*—Making a case of drawers or pigeon holes with a place in the front of each drawer for a card showing the wants of the proprietor, with a drawer or pigeon hole receptacle back for the reception of replies, when constructed substantially as described.

**69,638.**—JESSE DAVIS, New York, N. Y.—*Apparatus for Oiling Propeller Cranks.*—October 8, 1867.—The oil is drawn through an elastic pipe by the capillary attraction of the wick from the upper chamber and passes to a perforated box on the pitman. A pipe conveys oil from the uze to the crank-shaft bearing.

*Claim.*—Arranging the feed oil can *d* with a cotton wick running through the pipe *e* to a sponge or mop in its lower end, in combination with a perforated receiving box *b* and connecting pipe *c*, substantially as and for the purpose herein described.

**69,639.**—HORACE H. DAY, New York, N. Y.—*Canal Lock.*—October 8, 1867.—The lock is intended for raising a vessel a considerable height at a single lift as at the Niagara Falls. The vessel passes by a tunnel to the basin and the gate is close behind it. Water is then admitted to the basin through apertures at varying heights, commencing with the lowest, until the vessel reaches the upper level, when the upper gate is opened and the vessel passes out of the lock. The descent is performed by the converse operation.

*Claim.*—First, a canal lock constructed and operating in the manner substantially as and for the purposes herein described.

Second, in a canal lock, constructed as above, the pipes or channels placed in or at the sides of the lock chamber and used for filling and emptying the same, substantially as and for the purposes herein described.

Third, a series of valve openings at certain different heights, in combination with said pipes or channels, for the purpose of letting the water into and out of the canal lock successively at said different heights, as herein specified.

Fourth, in combination with the said canal lock the construction and arrangement of the vertical main gate or gates to be operated by hydrostatic power, and constructed substantially as described.

**69,640.**—S. M. DENNISTON, Hudson, Wis.—*Gate.*—October 8, 1867.—The carriage wheels driving over the trigger lever open the gate, which rises on its spiral screw hinge till detained by the hook on the post, from which it is released by the action of the wheels on the second lever. The gate closes by its own gravity causing it to rotate on the screw hinge.

*Claim.*—First, the hinge C, the pivoting pin of which is formed with a spiral or auger-shaped thread upon it fitting into the spiral thread cut in the eye of the hinge, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the plates H, levers G, and bar F, or their equivalents, with the platform A and the downwardly projecting pivoting pin of the lever hinges E of the gate B, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the plate L, lever K, or their equivalents, and lifting pins J with the platform A and pivoted hooks I, substantially as herein shown and described and for the purpose set forth.

**69,641.**—P. DEVILLIARD and A. POSTWEILER, Paris, France.—*Carriage Door.*—October 8, 1867.—The jointed frame is connected to the door by bolts; its object is to permit the door to open and shut without the necessity of lowering the glass.

*Claim.*—The application to the doors of landaus and carriages similar thereto of a jointed framework connected to the door by means of bolts, as herein described and illustrated by the accompanying drawings.

**69,642.**—C. R. DISBROW, Bath, N. Y.—*Transplanter.*—October 8, 1867.—The sliding side of the box is removable to allow it to be brought by a lateral motion to enclose the earth around the roots of the plant, after which the side is slipped into place and the plant lifted. The plant is reset in the ground by a converse action.

*Claim.*—A taper formed transplanter with a sliding side *a'*, arranged substantially as and for the purpose herein described.

**69,643.**—J. G. DODGE, Louisville, Ky.—*Plow.*—October 8, 1867.—The cast-iron frame is attached to the standard, and has seats and bolt holes by which the share, cutter, moldboard, and landside are attached.

*Claim.*—First, the frame, constructed as shown and described.

Second, the share P, having the flange T, arranged to fit in the recess at the front of the frame and form a section of the landside, as set forth.

Third, the plate N, arranged to fit in the space under the bar *f*, and in connection therewith form the rear portion of the landside, as shown and described.

Fourth, forming the landside of a plow of stationary section *b* and the removable sections T and N, when constructed and arranged as described.

Fifth, securing the plate N to the frame by means of the notch *u* and the flange *a*, as set forth.

Sixth, securing the flange T in place by means of the point *o* fitting into the notch *o'* on the front edge of the section *b*, substantially as described.

**69,644.**—JAMES D. DRIGGS, New Bedford, Mass., assignor to himself and EDWARD MERRILL, same place.—*Die Plate.*—October 8, 1867.—A frame is attached to the die plate in which a cylinder is screwed; the latter has a screw cut upon its outer surface graduated to correspond to that on the die. The bore of the cylinder corresponds to the size of the bolt that is to be cut. A set screw secures the attachment of the bolt.

*Claim.*—The frame B and cylinder C, with set screw D, applied to a die plate, substantially as and for the purpose herein specified.

**69,645.**—BENJAMIN, JOHN, SAMUEL B., and AUGUSTUS H. EBERT, Frederick, Md.—*Padlock.*—October 8, 1867.—The pass to the interior of the lock is guarded against picks by the eccentrically-fitted circular plates and cylinders.

*Claim.*—The construction of the cylinders I L and M, with their tumbler K, pin F, and turn-table E, when arranged, combined, and operated as herein described and for the purposes set forth.

**69,646.**—JOHN H. ELWARD, Mendota, Ill.—*Clamp for Ropes and Wires.*—October 8, 1867.—The cam lever is pivoted to a plate and engages the cord against a projection on the plate, the cord tending to draw the parts more forcibly together.

*Claim.*—A double-acting clamp for suspending ropes and wires consisting of a bifurcated cam lever B, having the parts C E and E' and the intermediate projection F arranged to operate substantially as described.

**69,647.**—GEORGE FARMER, Flint, Mich.—*Tallying Instrument.*—October 8, 1867.—A series of numbered, ratchet-edged disks are so connected as to be operated by pawls and cams, and, by a single lever, to show the gross amount of several sums, in turn indicated by the lever. The sum total required is shown through an opening in the case.

*Claim.*—A registering or tallying instrument, constructed substantially as herein shown and described; that is to say, with the two disk wheels C and D, the levers *f* and G, the cams F and *i*, and the spring pawls *a*, in combination with the dial plate A', the whole instrument constructed, arranged, and operating substantially as herein described for the purposes set forth.

**69,648.**—AMEDEE and EUGENE FONTAINE, Fort Wayne, Ind.—*Annunciating Fire Alarm.*—October 8, 1867.—The wire actuator, expanding by the heat of the fire, releases the weighted lever, which strikes the stop lever and enforces its release of the fan that,



rotating by its spring-gear connections, draws the bell full and gives the alarm.

*Claim.*—First, combination of the expansive wire *i*, the weighted lever *D*, the fan *A*, the segmental wheel *B*, the stop lever *C*, the segmental wheel *k*, pinion *j*, and hand *l*, each of which is constructed and operated for the purpose and in the manner specified.

Second, the combination of the segmental wheel *B*, and train operated thereby, and pinion driver *b*, for the purpose of so setting thermometrically the apparatus, substantially in the manner and for the purpose described.

Third, the segmental wheel *B*, constructed in the manner specified, in combination with the stop lever, for the purpose of maintaining the same relative position of the upper end of said stop lever to the fan *A*, the same being operated substantially as set forth.

Fourth, the stop lever *C*, the fan *A*, and the helical spring *a* and train, in combination with the bell pull or slotted bar or rack *m*, the same being constructed in the manner and for the purposes specified.

Fifth, the combination of the alarm with the annunciator, the same being constructed in the manner and for the purposes substantially as specified.

Sixth, the ratchet *G*, pawl *s*, lugs *o*, stop levers *p*, the projection *u* on pawl *s*, the same being constructed, combined, and operated in the manner and for the purposes specified.

Seventh, the arm *v* on pawl *s* and fan *w*, for the purpose of locking and relieving the train, the whole being constructed and combined in the manner substantially as specified.

**69,649.**—JOHN FORBES, New York, N. Y.—*Skate.*—October 8, 1867.—The foot rest is composed of different sections, so attached to each other and to the runner by buttons, screws, and clamps as to give elasticity to the tread, and to facilitate its being taken apart for cleaning.

*Claim.*—First, forming the drops *a* and *f* on the toe and heel plates respectively by punching and bending, so that they are part of the said plates, as set forth.

Second, the manner of securing the heel and toe plates to the posts on the runner by means of slot-headed buttons *e* and *g*, fitting into T-shaped slots in the said posts, as described.

**69,650.**—DAVID L. FURNIER, Rostraver, Pa.—*Machine for Washing Sand, &c.*—October 8, 1867.—Improvement on his patent March 12, 1867. The sand is crushed and mixed with water by rotating rollers in the pan preparatory to its being carried to the main washer. The riddle which separates the coarse gravel is worked by an eccentric. A set of cast-iron elevators receive the product, and carry it to the main washer, where the boxes are emptied by a scraper.

*Claim.*—First, the method as herein described of crushing and washing sand or rock by means of revolving wheels, operated by cross or horizontal shaft beneath the pan.

Second, the construction of iron boxes or elevators that receive the sand and water mixed in the manner as and for the purpose described.

Third, the scraper that enters each and every box, in the manner and for the purpose described.

**69,651.**—C. H. GIFFORD, Philadelphia, N. Y., assignor to himself and ELBRIDGE SIMS, Antwerp, N. Y.—*Horse Hay Fork.*—October 8, 1867.—The loaded fork is raised and transported by the draft rope attached to the upper end of the arm of the frame. The fork is tripped to discharge the hay by withdrawing the upper end of the catch bar, and thereby freeing the catch from the arm.

*Claim.*—An improved hay fork, formed by the combination of the prongs *C*, prong shaft *B*, rigid arm *E*, catch bar *D*, pivoted to arm *E*, spring *F* and frame *A* with each other, substantially in the manner herein shown and described.

**69,652.**—C. H. GIFFORD, Philadelphia, N. Y., assignor to himself and ELBRIDGE SIMS, Antwerp, N. Y.—*Hay Loader.*—October 8, 1867.—The rake gathers the hay as the wagon progresses, and the pulley being brought into connection with the hind wheel, hoists the draft cord that runs on the crane

and connects with the rake, lifting the hay and depositing it on the wagon.

*Claim.*—First, the adjustable friction pulley *F*, arranged in journals in the arms *C'*, and adapted to bear against the periphery of the wheel *A*, as and for the purpose specified.

Second, the combination of the crane *H*, rope *G*, pulley *F*, operating lever *E* and beam *D* with each other and with the frame of the wagon, substantially as herein shown and described, and for the purpose set forth.

Third, the combination of the rake *I J* with the frame of the wagon and with the hoisting apparatus, substantially as herein shown and described and for the purpose set forth.

**69,653.**—EDWARD L. GILMAN, Somerville, Mass.—*Churn.*—October 8, 1867.—The rake by its geared connections actuates the pivoted pitmen, producing an alternating reverse movement of the dashers.

*Claim.*—First, the dashers *G G*, constructed as described, and used with the shaft *F*, in the manner and for the purposes set forth.

Second, the cups *H H'*, perforated as described and used upon the lid *A'* with the dasher shaft *F*, in the manner specified.

Third, the arrangement of the frame *B* upon the lid with wheels *C C C<sup>1</sup> C<sup>2</sup>*, pitmen *E E*, with their dashers and shafts, operated by the wheel *D*, in the manner and for the purposes described.

**69,654.**—NEWTON J. GLOVER, Waveland, Ind.—*Portable Fence.*—October 8, 1867.—The panels of the fence are connected by cleated ties stretching across the corners.

*Claim.*—A portable zig-zag fence with the panels separated and supported by the wedges *V V* and braces *N N*, as constructed and shown.

**69,655.**—WM. F. GOODWIN, East New York, N. Y., and CHARLES R. SQUIRE, New York, N. Y.—*Machine for Pulverizing Rocks, Ores, &c.*—October 8, 1867.—The ore is pulverized in the drum by a series of corrugated rollers that mesh into one another.

*Claim.*—The series of ribbed or cogged wheels *B<sup>2</sup> B<sup>3</sup> B<sup>4</sup> B<sup>5</sup> B<sup>6</sup>*, inclosed within the drum *B*, which wheels mesh together, and with the teeth or ribs on the inner surface of the hoop of the drum, the revolving of which revolves the pinion wheels, constructed and arranged to operate in the manner and for the purpose substantially as described.

**69,656.**—WM. F. GOODWIN, East New York, N. Y., and CHARLES R. SQUIRE, New York, N. Y.—*Machine for Crushing Rocks, Ores, &c.*—October 8, 1867.—The belt on the driving pulley rotates the shaft operating the cams and pitmen, and causes the swinging ends of the bars to vibrate up and down. The motion causes them to open and close like a toggle joint, opening when elevated out of line, and closing when depressed into line with their fulcrum of motion, and thus crushes the rock.

*Claim.*—First, the long bars *A* and *A'*, placed end to end in a horizontal line with each other in the frame *F*, and having their outer ends pivoted in the bolts *B*, one on each end of the frame *F*, and having their inner ends operated independently of each other by means of the cams *C C<sup>1</sup>* and pitmen *P P<sup>1</sup>*, arranged to operate in the manner and for the purpose substantially as shown and described.

Second, the blocks *K* and *K<sup>1</sup>* and spring *I*, arranged to operate together in the manner and for the purpose substantially as described.

**69,657.**—THOMAS D. GUTHRIE, Jr., Galva, Ill.—*Baling Press.*—October 8, 1867.—The screw follower is elevated by its geared connections, and compresses the bale in the press. The inner surface of the chamber is slotted for the reception of the hoops by which the bale is secured.

*Claim.*—The combination of the follower *H*, screw *I*, gear wheels *J K P*, shafts *L R*, clutches *M O* and *S U*, gear wheels *N T* and segment *X*, having external and internal teeth, and provided with sockets *Y* for the reception of the levers *Z* with each other and with the frame of the press, substantially as herein shown and described and for the purpose set forth.



**69,658.**—WM. HAMER, Little Lever, England.—*A Sliver Can for Cotton, &c.*—October 8, 1867.—A disk within the can is supported on a spiral spring, and acts on the bottom of the sliver to raise it and assist in its removal.

*Claim.*—The spiral spring *c*, supporting the movable metal plate *b* in the can *a*, having the perforated bottom, all constructed and operating as described for the purpose specified.

**69,659.**—JOSEPH O. HAMILTON, Jerseyville, Ill.—*Obstetrical Bandage.*—October 8, 1867.—The two body sections of the gored bandage are attached by elastic bands, that are secured by buckles. The narrow bandage between the limbs buttons to the bandage above.

*Claim.*—An obstetrical supporter formed in three parts *B C D*, and provided with elastic bands *G*, extension pieces *K*, loops *H*, gores *L*, and slits *I*, all constructed and arranged as shown and described.

**69,660.**—JAMES HAMMOND, Adams Centre, N. Y.—*Chimney Cap.*—October 8, 1867.—The cap formed as stated is attached to the chimney by its legs, and is intended to prevent the descent of wind and rain, but allow sufficient smoke exit beneath its rim.

*Claim.*—The chimney cap constructed, as described, of one piece of cast metal hollowed out upon its under side *B*, and having the legs *C*, and with its ends and sides *B* flared outward, as herein shown and described.

**69,661.**—J. B. HANNIMAN, Detroit, Mich.—*Water Closet.*—October 8, 1867.—The foot board is so connected to the seat as to erect the same when the weight of a person is upon the said board, and to allow the cover to descend when the weight is removed.

*Claim.*—The arrangement and combination with the lever *j*, of the seat *e* and sliding bar *m*, substantially as described.

**69,662.**—CHARLES HASKINS, Penn Yan, N. Y.—*Universal Coupling.*—October 8, 1867.—The gimbal ring has bearings in each of the sections, and when the latter are drawn together the parts may be uncoupled by slipping laterally.

*Claim.*—First, the channels *a* in the arms *B* and ledge *C*, between the arms, as and for the purpose herein set forth.

Second, the cross *D*, when provided with pivots as described and used to connect the two parts of universal coupling, substantially as specified.

**69,663.**—ALBERT M. HASTINGS, Rochester, N. Y., and STOUGHTON PETTEBONE, Niagara Falls, N. Y.—*Treating Straw, Wood, and other Materials for the Manufacture of Paper.*—October 8, 1867.—Explained by the claim.

*Claim.*—The treating of straw, wood, or other fibrous material for the manufacture of paper pulp by boiling the same in a solution of caustic alkali liquor of suitable strength, in a closed cylinder or vessel, at low temperature, not in any case to exceed 300° Fahrenheit, accompanied with internal agitation of the contents of the vessel or cylinder, produced by wings, brackets, or any other means or mechanical appliances and preferably by the use of a rotating cylinder, furnished with wings or brackets, as above described.

**69,664.**—M. C. HAWKINS, Edenboro, Pa., assignor to himself and ALONZO PERRY, same place.—*Metal Tip for Suspending Brooms, &c.*—October 8, 1867.—The end of the broom handle has a ferrule and a loop whereby it is suspended.

*Claim.*—The metallic tip for brooms and mop handles, constructed as described, consisting of the struck up or cast spherical end *L*, having the upper edge of the opening *F* nearly in its center, and presenting a smooth surface to the hand of the user, as herein shown and described.

**69,665.**—CLIFTON HELLEN, Washington, D. C.—*Egg Cup.*—October 8, 1867.—The implement may be used as a tongs for picking up hot eggs or as an egg cup, the sides being hinged together and having a spring to keep the base of the feet apart.

*Claim.*—An egg cup formed of the sides *A A*, consisting of the bowl for holding the egg and the base or feet *B B*, on which the cup stands, in combination with the hinge *C* and spring *D*, as herein set forth and described.

**69,666.**—C. HODGKINS, Marlboro, N. H.—*Sewing Machine.*—October 8, 1867.—The small rod fitting transversely through the head of the needle arbor carries the thread through oblique holes in the ends, by which the tension is regulated. The thread traveling with the arbor does not bow and slacken and thus lose its tension.

*Claim.*—The rod *S* fitted transversely and horizontally in the upper part of the needle arbor *E*, secured therein by the pressure pin *o* and provided with holes *r* for the thread *s* to pass through, substantially as and for the purpose specified.

**69,667.**—FRANK HOLDEN, Litchfield, Ill.—*Horse Rake.*—October 8, 1867.—As the rake gathers, it is kept to its work by the cross-head of the link. When a load is gathered the driver, by raising the lever and thereby the cross-head, causes the rake to make a semi-rotation to discharge its load.

*Claim.*—First, the sliding rods *L L*, connected with the shaft *I*, operated through the medium of the foot lever *J*, in combination with the hooks *n n* on the straps *m m*, in which the rake head *l* is fitted, arms *E E* and pendants *h h*, substantially as and for the purpose specified.

Second, in combination with the above the arms *E E* supporting the rake and pivoted to the oblique pendants *h h*, substantially as described for the purpose specified.

**69,668.**—SAMUEL R. HOLMES, Salem, Oregon.—*Washing Machine.*—October 8, 1867.—The laterally-moving roller frame is adjusted by a lever to press the clothes against the other frame. When brought to hard pressure against the clothes the frames are reciprocated longitudinally by rotation of a compound crank shaft.

*Claim.*—First, the rollers *D* and roller frames *B* and *C*, placed in a vertical position and vibrating at the same time in opposite directions in combination with each other and with the box *A*, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the double crank *G* and pitmen *I* and *J*, with the vertical roller frames *B* and *C* and with the box *A*, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the lever *K*, connecting bar *L*, crank shaft *M*, and slotted plates *f'* with each other and with the box *A* and sliding frame *F*, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the roller frame *C* and sliding frame *F* with each other, substantially as herein shown and described, for the purpose of giving to said roller frame a longitudinal and lateral movement at the same time.

**69,669.**—A. H. HOPKINS, Goshen, Ind.—*Buckle.*—October 8, 1867.—The tongues of the double buckle are hung on a bar common to both and engage the ends of the adjoining straps.

*Claim.*—A harness buckle formed with two tongues *b b* hung in the middle in opposite directions to lift and catch on the opposite flat sides of the frame against the cross bars *d d* and provided with tuck loops *c c* on each side, substantially as and for the purposes herein described.

**69,670.**—J. CORROLL HOUSE, Lowville, N. Y.—*Lamp Heater for Dental Purposes.*—October 8, 1867; antedated September 25, 1867.—The burner of the coal-oil lamp has fitted to it an inverted truncate-conical piece containing a mica window, through which to watch the flame. The top of the piece gives bearing to the radial projections of a flat-bottomed cup which is covered by a perforated lid. On these parts is placed a conical-topped cylindrical cover, with perforations for escape of the caloric current.

*Claim.*—The construction and use of the cylindrical-conical dome *D E*, in combination with the winged cup *d*, the perforated diaphragm plate *e*, or their equivalents, as set forth in the above specification.



**69,671.**—EDMUND HOWARD, Flushing, N. Y., and W. H. JACKSON, New York, N. Y.—*Sewing Machine for Working Button-holes.*—October 8, 1867.—The lever needles take up the slack of the thread at the heel of the shuttle at the time that the ordinary shuttle stitch has been completed and carry it forward upon the under side of the cloth around its edge in time for the next downward movement of the needle to pass through the loop of the shuttle stitch thus formed, the needle thread securing the loop and completing the button-hole stitch.

*Claim.*—First, the combination of the hook lever or needle K and split lever or needle Y, or their respective equivalents, both acting the one after the other to carry the thread from the shuttle or other under-thread carrier of a sewing machine to the upper side of the cloth being sewed and around its edge, when such levers are arranged to operate together and with reference to the ordinary sewing mechanism of the machine, substantially as described and for the purpose specified.

Second, operating the hook and split levers K and Y, or their respective equivalents, with reference to the ordinary sewing mechanism of a machine, by and through the forward and backward movement of the shuttle or other under-thread carrier of the machine, substantially as and for the purpose described.

**69,672.**—WILLIAM WHEELER HUBBEL, Philadelphia, Pa.—*Amalgamator.*—October 8, 1867.—The angular-faced revolving bars are suspended horizontally in a series, and force the pulverized wet ore repeatedly downward and longitudinally into and along a series of cells or a bed of quicksilver, with which the gold and silver amalgamate. A basin behind the bed arrests the stray amalgam.

*Claim.*—First, the series of revolving angular-faced bars *e*, operating as described, over the cells *a* or bed of quicksilver upon the saturated ore, to force it down and longitudinally, successively, into contact with the quicksilver, for the purpose of enabling it to take up the gold and silver in the ore and form an amalgam, thereby extracting these metals from their ores.

Second, the construction and arrangement of the feed wheel *h* and water way *r* to operate together and with the said angular-faced revolving bars, to regularly supply them with and saturate the ore for amalgamation, in the before mentioned manner.

Third, the construction and application, in connection with and behind the bars *e* and amalgamating bed *a*, of a waste basin or basins, or amalgam reservoir *b d*, adapted to receive and save the quicksilver, gold and silver, or amalgam, as it is sometimes driven back in and with the ore by the action of the bars before settling, as described.

Fourth, the construction, arrangement, and gearing of the revolving pulleys, or their equivalents, to revolve all the bars together by connections or shafts extending through the side piece *w*, and with the feed wheel, substantially as described.

Fifth, the construction of the side pieces *v* and *w* with the ends of the bars *e* and their revolving appliances, so that the bars may be readily removed to collect the amalgam and be again restored to their place and work without disturbing the revolving appliances, substantially in the manner and for this especial purpose, as described.

**69,673.**—HENRY DEWAIN HUNT, Danville, Ill.—*Hand Loom.*—October 8, 1867.—The movable plates and levers attached to the lay are connected with the breast beam and shuttle drivers, so that the movement of the lay actuates the shuttles. The intermittent action of the lay also actuates the adjustable pawl which engages the ratchet on the cloth-beam shaft.

*Claim.*—First, the segmental levers H pivoted to the lay C, in combination with the long curved levers *e*, the hook *m*, the spring *d*, the cords *g*, and the drivers I, constructed, arranged, and operating substantially as and for the purposes herein described.

Second, the adjustable pawl *p* and screw *p*<sup>2</sup>, connected with the lathe and in combination with the ratchet wheel *p*<sup>1</sup> on the cloth beam D, arranged and operating as and for the purpose specified.

**69,674.**—ARTHUR HUSTON, Bristol, Me.—*Brush Clamp.*—October 8, 1867.—The clamp has two hinged lips which slip over the butt and give to the bristles a fan shape by pressing upon them on opposite sides.

*Claim.*—An improved brush clamp A, formed in two parts *a*<sup>1</sup> and *a*<sup>2</sup>, and in substantially the form and manner herein shown and described, and for the purpose set forth.

**69,675.**—JAMES INGRAM, New York, N. Y.—*Bathing Apparatus.*—October 8, 1867.—The syringe is adapted to the reception of the desired quantity of the liquid which is discharged under a given pressure upon or into the body.

*Claim.*—First, the syringe *k* fitted with a piston to receive movable weights and provided with supply pipes and discharge cock, as and for the purpose set forth.

Second, the arrangement of pipes and cocks specified in combination with the bath tub, as and for the purposes set forth.

**69,676.**—W. J. JOHNSON, New Orleans, La.—*Truss Pad.*—October 8, 1867.—The pad is kept in position against the rupture by its spring arm, and the pressure rendered more regular by the spiral spring beneath the thumb pad.

*Claim.*—The truss constructed as described, with the thumb pad B hinged to the rim of the annular pad A, the latter pressing against the body in one direction while the former, by the action of the spring F in the recess C, presses against the hernia with a lifting action, as herein shown and described.

**69,677.**—JOHN JONES, Baltimore, Md.—*Machine for Compressing Peat.*—October 8, 1867.—The peat is passed between the two rollers and is pressed into their recesses. The rollers are connected together by cog-wheels, and a portion of their periphery is subjected to the direct heat of the furnace.

*Claim.*—The application of pitted, grooved, or corrugated rollers, for the purpose specified.

Also, the direct application of heat to the pressing apparatus.

**69,678.**—JOHN L. KEASOR, Laconia, N. H.—*Self-acting Plow Holder.*—October 8, 1867.—The beam is attached by its draft clevis to the front axle, and the plow is steadied and adjusted by pivoted rods connecting with the narrow box frame. The rear axle is shortened to give a clear track for the plow.

*Claim.*—First, attaching one or more plows to the side of a wagon, substantially as herein shown and described.

Second, the combination of the horizontal bar C, vertical bar E, horizontal beam F, and brace bar H with each other and with the plow B and wagon A, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the pivoted bar I, chain K or its equivalent, and lever L with each other and with the plow B and wagon A, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the lever plow cleaner N with the plow B and wagon A, substantially as herein shown and described and for the purpose set forth.

**69,679.**—JAMES M. and MARTIN L. KELLAR, Buckeye, Iowa.—*Harvester.*—October 8, 1867.—The horizontal rotary cutter plate has serrate-edged cutters with radial faces, which work in combination with a segmental series of fingers. The rake rotates over the cutter. The cutter mechanism is adjustable vertically, or can be turned up in a vertical position.

*Claim.*—First, the circular cutter I and finger plate H, arranged in connection with a grain platform E and attached to the main frame A, substantially as shown and described, to admit of being raised or lowered or turned up to a vertical position, as set forth.

Second, the horizontal revolving rake arm S, with rake T attached and arranged and applied as shown, to admit of being rotated from the hub of wheel K, and raised and lowered either simultaneously with or independently of the grain platform and cutting apparatus, substantially as shown and described.

Third, the lever R and lever frame P, attached respectively to the standard J and lips *j j*, and arranged and combined, as shown, for raising and lowering the cutting apparatus.

Fourth, the placing of the rake arm S on the standard J and connecting it with the hub *s* of the wheel



K and with the rod U and bell crank *y*, as shown, to admit of the rake being rendered operative and inoperative at any time when desired.

**69,680.**—J. E. and A. H. KENDEIGH, Amherst, Ohio.—*Fence Post*.—October 8, 1867.—The post is for attachment to a foundation stone and has edge flanges to give strength, and ears to which the ends of the bars are riveted.

*Claim.*—The herein described post when constructed of sheet-iron, provided with flanges B and ears E, in combination with the boards F, in the manner substantially as set forth.

**69,681.**—SAMUEL U. KING, Windsor, Vt.—*Scythe Fastening*.—October 8, 1867.—The point of the tang enters a hole in an adjustable plate. The heel rests upon an adjustable block and is held down by an embracing ring drawn toward the beam block by a screw.

*Claim.*—The combination and arrangement of the adjustable bearer D and its two series of adjusting teeth with the metallic head A, and the clamp C, applied thereto as specified.

Also, the bearer D, as made in two parts *r s*, arranged in manner and for the purpose specified.

Also, the combination and arrangement of the teeth *m p*, and the adjustable arm E, and the head A, substantially as described.

Also, the application of the adjustable arm E to the plate *b*, by means of the journal extended from the arm and by the bearing for such journal, made in the plate as specified, the same serving to relieve the screw *q* from lateral strain of the scythe tang, such as would tend to loosen the screw in the snath.

**69,682.**—A. LA TOURETTE, Waterloo, N. Y.—*Ditching Machine*.—October 8, 1867.—The endless chain is mounted with scoops and is adjustable to the depth required to be excavated.

*Claim.*—First, the combination in a ditching machine of the endless chain *d f*, curved spades or scoops *e*, bars K K, drums J L, propelling shaft and rope F O, gearing G H, sweep shaft I, chain D E, and the parts M N *a*, or their equivalents, for regulating the penetration of the spades, all arranged and operating substantially in the manner herein set forth.

Second, in a ditching machine constructed and operating as herein described, the extensible chains D E D E, applied to the front axle, in the manner and for the purpose set forth.

**69,683.**—A. LA TOURETTE, Waterloo, N. Y., and SETH H. SMITH, Venice, N. Y.—*Brick Machine*.—October 8, 1867.—The radial arms on the vertical shaft of the cylinder, temper the clay. The rectangular openings in the reciprocating bed beneath the cylinder serve as molds which are alternately filled as they rotate into position, by the lower radial arm. The plunger in the bottom of the mold is forced up after leaving the cylinder by inclined projections on the track and projects the brick from the mold.

*Claim.*—The reciprocating mold bed G, when operated from the vertical shaft C of the mud mill by means of the revolving curved arm F, and when so arranged that the molds *b b* are filled at one revolution of the shaft C, as herein shown and described.

**69,684.**—LOUIS LEFEBVRE, New Orleans, La.—*Sugar Evaporator*.—October 8, 1867.—The kettle has a hemispherical central bottom and an annular bottom surrounding the former. Steam pipes are allowed to pass around or the caloric currents from a furnace to circulate outside the kettles and in the annular space between the two parts of the bottom.

*Claim.*—The construction of the multiple evaporators and triple cylinders, one or more kettles communicating with each other as herein described and for the purpose of evaporating juice or liquid by direct fire or steam, as set forth.

**69,685.**—B. M. LEURY, Montgomery, Ala.—*Lathe*.—October 8, 1867.—The motion is conveyed from the driving pulley to the arbor by bevel gear wheels, engaging with their connecting pinion.

*Claim.*—The combination of the arbor A, wheels F G, and pawl wheel I, grooved pulley L, and pinion wheel J, arranged substantially as and for the purpose described.

**69,686.**—ALBERT MARSHALL, Methuen, Mass.—*Carriage Truck*.—October 8, 1867.—The rear axle is pivoted to the perch and the axles are diagonally connected together to assist in turning by inclining the axles in different directions.

*Claim.*—A carriage truck or bed, constructed substantially as described for the purpose set forth.

Also, in combination with the above, connecting the rear axle to the perch L, and spring K, by means of the plates *i k n p*, and bolts *b m*, constructed and arranged substantially as described.

**69,687.**—ELI L. MCNETT, Canton, Pa.—*Governor*.—October 8, 1867.—The balls are suspended from a cross-bar on the governor stem, of such a length as to allow of their hanging vertically from its ends. The balls are also connected to a shorter cross-bar lower on the stem, and these latter are connected to the sliding sleeve. The increased motion of the stem will tend to bring the balls nearer in line with the plane of the shorter bar and they will be thrown upward by other force to that exerted by their centrifugal motion.

*Claim.*—First, the bars C, upon the spindle A, connected to the balls E by the rods *b*, said balls connected to the short bar D on the spindle A, at an angle of about 45° with the bar C, by means of the rods *a*, which are connected to the sliding sleeve B by the rods *d*, all operating as described, whereby the momentum of the balls aids the centrifugal force to shut off the steam and the inertia of the balls aids the centrifugal force to let on the steam, as herein shown and described.

Second, the combination and arrangement of the cross-bars C D, rods *a b d*, balls E, and sliding sleeve B, as herein set forth for the purpose specified.

**69,688.**—JOHN MELLING, Rochester, N. Y.—*Passenger Register*.—October 8, 1867.—The pressure of the foot on the deflecting plate upon the threshold depresses the lever connected by a spring rod to a pawl, actuating the screw gear and registering one on the dial.

*Claim.*—First, the arrangement of the deflecting plate and hollow sill A, in combination with the lever F, substantially in the manner and for the purposes herein described.

Second, in combination with the deflecting plate C and lever F, the worm gearing and register hand and dial, all arranged and operating in the manner shown and described and for the purpose set forth.

**69,689.**—M. J. MELLYN, Roxbury, Mass.—*Cutting Tool*.—October 8, 1867.—The chisel is guided in the socket and operates on the shoulder of the bar, which forms an anvil.

*Claim.*—The bar A, constructed substantially as shown and described, with the anvil C and socket E, in combination with the chisel B, substantially as and for the purposes herein set forth and described.

**69,690.**—A. N. MERRITT, Gardner, Mass.—*Butter Cutter*.—October 8, 1867.—The cylindrical cutter is forced down into the butter and a wire cutter passing through the hollow pipe and out to one side cuts the bottom of the pat while revolving round. The print on top leaves its impression on the butter.

*Claim.*—The combination of the inverted cylindrical cup A, movable plate F, or its equivalent center pin C, and cutting wire D with each other, substantially as herein shown and described and for the purpose set forth.

**69,691.**—FREDERICK MEYER, Newark, N. J.—*Scoop for Scales*.—October 8, 1867.—The scoop is stamped out of one sheet, instead of jointing.

*Claim.*—As an article of manufacture a scoop for scales, made of one piece of metal, as and for the purpose specified.

**69,692.**—THOMAS S. MINNISS, Meadville, Pa.—*Sled Brake*.—October 8, 1867; antedated September 26, 1867.—The spiked lever is hinged to the forward bench so that on raising the handle of the lever the brake is operated.

*Claim.*—The scraper B, armed as described and operated by the lever C, as and for the purpose set forth.



**69,693.**—FREEMAN MOORE and JOHN A. BAKER, Carrollton, Ohio.—*Car Coupling*.—October 8, 1867.—The conical-headed bolt engages the jaws which retain their hold on the shoulder of the head, and effect the coupling.

*Claim.*—First, the latch D, in combination with the forked lever E E<sup>1</sup> E<sup>2</sup>, the same being arranged so as to automatically couple the link or shackle G, substantially in the manner set forth.

Second, the combination with the above of the lever I, bar I', and arm J, the same being arranged as described, and employed to uncouple and disconnect the cars in the event of running off the track, substantially as set forth.

Third, the combination of the latch D, link F, forked lever E E<sup>1</sup> E<sup>2</sup>, and spring H, all arranged and operating in the manner and for the purpose specified.

Fourth, the combination with the coupling and uncoupling devices herein described, of the lever L, arranged and employed in the manner and for the purpose set forth.

**69,694.**—DUANE PECK, Rochelle, Ill.—*Mop Wringer*.—October 8, 1867.—The moving roller is brought to the fixed one by pressure upon the treadle and is raised again by the spiral springs.

*Claim.*—The roller B, sliding in the groove b of the inclined bars a, the toggle C c, rod D, treadle E, spring F, sliding roller G, bearing against the springs d, all combined and arranged to operate as herein described for the purpose specified.

**69,695.**—SAMUEL PECKE, Eaton, Ohio.—*Animal Trap*.—October 8, 1867.—When the rat tilts the platform he closes the entrance, but in retreating it in descending to the lower compartment he resets the outer gate.

*Claim.*—The construction and arrangement of the levers J K, one end of each being pivoted to the partitions in the chamber L, and the other ends to the slides H I, and pivoted to each other in the center, the bent lever M, secured at one end to the bar K, and passing through the block N, in partition C, secured to the tilting platform O in the center chamber, the spring R, and lever catch S, as herein described for the purpose set forth.

**69,696.**—DANIEL PETERS and ROBERT F. WILLIAMS, Keokuk, Iowa.—*Line Holder*.—October 8, 1867.—The line is passed beneath the cross-head and then over the crotch of the lever which is hinged to the bracket attached to the wall, and by its oscillation pinches the rope.

*Claim.*—First, the lever B, with a cross-head d, and a crotch e, substantially as and for the purpose described.

Second, the bracket A, with its lugs e e, substantially in the manner and for the purpose described.

Third, the arrangement of the lever B, so that the line may be passed between its cross-head and the plate, and also through the crotch e, substantially in the manner described.

Fourth, the manner substantially described of constructing the bracket plate A with a socket bearing a, and the lever B, with a pivot b b, so that these parts may be connected together without any auxiliary device, such as a rivet or detached pin, as set forth.

**69,697.**—JOSHUA PIERPONT, La Harpe, Ill., assignor to himself and SIDNEY S. TUTTLE, same place.—*Cultivator Coupling*.—October 8, 1867.—The arms of the axle are cast with a longitudinal groove on the upper side of each, for receiving the ends of a wrought iron connecting bar, and have braces on the under side for receiving a turn-table clevis.

*Claim.*—First, the turn-table clevis, with the head g, in combination with the axle arm a, both constructed and operating substantially as and for the purpose herein described.

Second, the combination of the clevis and the axle arm a with the connecting bar B, arranged and operating as and for the purpose described.

**69,698.**—PATRICK POWER, Chicago, Ill.—*Rocker for Cradles*.—October 8, 1867.—The rollers on the lower side of the rockers facilitate the removal of the cradle.

*Claim.*—The combination of one or more rollers C

with the rocker B, substantially as herein shown and described, and for the purpose set forth.

**69,699.**—D. A. PRATT, Tremont, N. Y.—*Motive Power for Locomotion and Other Purposes*.—October 8, 1867.—Power is accumulated by a series of spiral springs that communicate their action to the wheels of the carriage.

*Claim.*—First, the mode and manner of adding the power of one coiled ribbon or main spring, or in lieu thereof a "coiled spiral wire spring" to another, by gear or its equivalent, in such a manner that the power of each and all of them shall reach one or more common centers or "units of power," substantially as described.

Second, the use of spiral wire springs in "sets," as well as also a coiled ribbon or main spring in groups, as herein described, for motive purposes.

Third, the mode and manner of attaching this particular power, as herein set forth, to the driving wheels of the carriage thereof, for the purposes and as described.

Fourth, the combination of this power, when thus accumulated, with three or more pinions and gear as described, and for the purposes set forth.

**69,700.**—D. A. PRATT, Sing Sing, N. Y.—*Key Hole Guard for Door Locks*.—October 8, 1867.—The guard being inserted in the key-hole, the catches are expanded by the cam which is actuated by the rotated head.

*Claim.*—The V-shaped cam or spiral screw, revolving on the arbor a of the key, for the purposes of expanding or contracting the arm b, or lip c; also the serrated arm b, as well as the combination of said serrated arm b and lip c with said cam.

**69,701.**—G. W. PRESSEY, Hammonton, N. J.—*Stump Extractor*.—October 8, 1867.—The annular pawls are so arranged as to clutch the lifting bar during their upward stroke and to slip during the down stroke. The levers act alternately upon the said bar, which slides vertically in guides.

*Claim.*—The pawls H H, constructed in annular form, so as to fit loosely on the lifting bar B, and provided with pendent arms f, in connection with the levers E E, all arranged and applied to operate in the manner substantially as and for the purpose set forth.

Also, the holding and retaining pawl I, when used in combination with the pawls H H and the levers E E, substantially as and for the purpose specified.

Also, the pin c, fitted on the lifting bar B, in combination with the lower perforated bent end of the lifting bar, all arranged for the purpose of holding the chain to the lower end of the lifting bar, substantially as shown and described.

**69,702.**—JOHN G. RAYMOND, Rondont, N. Y.—*Boiler Gauge Cock*.—October 8, 1867.—The disk at the end of the tube is rotated by the rod to which it is attached, so that the apertures in the disk and in the tube may correspond when steam or water is discharged, and a tight joint obtained between the two when required.

*Claim.*—The disk or button C, arranged substantially as described, in combination with the tube A and aperture e, as and for the purpose specified.

**69,703.**—ROBERT L. REAM, New York, N. Y.—*Wooden Pavement*.—October 8, 1867.—Sections of pavement are made by fastening together wooden blocks by means of iron spikes or wooden pins and wooden bands, and when placed in position the sections are interlocked by keys whose edges occupy the circumferential grooves in the cluster of blocks.

*Claim.*—In the construction of wooden pavements, the removable and replaceable notched keys, for locking in transverse directions sections made of a series of blocks spiked, grooved, and banded together as herein described, so that the sections may be taken up when pipes or sewers are to be laid in the street, and readily laid down again, or for repairs, as set forth.

**69,704.**—PETER S. REIST, Oregon, Pa.—*Self-adjusting Elastic Gate*.—October 8, 1867.—The gates are sprung open by the ears when they come in contact with them, and close again in the rear of the train by the recoil of their springs.



*Claim.*—The construction of self-adjusting elastic gate, as herein described, and for the purposes set forth.

**69,705.**—RUDOLPH W. RIESS, Philadelphia, Pa.—*Rotary Steam Engine.*—October 8, 1867.—The valve admits the steam in the direction desired, and also forms a movable abutment which rests against the periphery of the hub. The bearings of the pintle of the valve are continued on one side beyond the cylinder heads, so as to receive an operating lever which lies against the cylinder head and is retained in place by the lug.

*Claim.*—First, the reversible valve C of a rotary engine, constructed and arranged substantially as described.

Second, in combination with the above, the lever K, constructed of hinged parts, substantially as described.

**69,706.**—L. J. ROBERTS, Corry, Pa.—*Hose Coupling.*—October 8, 1867.—One part of the coupling enters the end of the nut upon the other part, and is secured by bayonet fastenings, whose disengagement is prevented by springs.

*Claim.*—The hose end B, constructed with coupling pins  $b'$ , and the independent nut C, constructed with a screw thread, bayonet slots, and one or more springs D, in combination with each other and with the hose end A, substantially as herein shown and described, and for the purpose set forth.

**69,707.**—JACOB RUPERTUS, Philadelphia, Pa.—*Cartridge for Fire-arms.*—October 8, 1867.—The cartridges are successively introduced into the barrel of the gun and the detonate of each one exploded from the one before it. The detonate is carried under the recurved edge of a sheet metal case whose end enters the cavity in the bullet. The fire is communicated from one charge to another through an axial passage in the bullet, firing the charges in quick automatic succession.

*Claim.*—First, a projectile A, having a central opening  $a$ , in combination with a case C, arranged in front of the projectile for containing the powder, all substantially as set forth.

Second, the combination of the projectile A and its central openings  $a$ , with the case B, its detonate chamber, and indented or grooved projecting  $g$ , the whole being arranged substantially as and for the purpose set forth.

Third, the casing C, composed of paper or other fabric, and wire net work, and secured to the front of the projectile, all substantially as described.

**69,708.**—JOHN RUSHWORTH, New York, N. Y.—*Loom for Weaving Ribbons, &c.*—October 8, 1867.—The rack is actuated by the pinions to rotate the rollers that carry the shuttle.

*Claim.*—The metal rack A, constructed of bars  $d$   $d$  and rods  $c$   $c$   $c$ , as shown and described, combined with the strap  $h$  and pinions  $f$   $f$ , in the manner and for the purposes set forth.

**69,709.**—JAMES RUSSELL, Springfield, Mass., assignor to himself and H. A. COLLINS, same place.—*Card-Setting Machine.*—October 8, 1867.—Improvement on the patent of Coates and Russell, August 1, 1854. The carrier plate of the former is made independent of the other slides which carry the crowner and bending fingers. The carrier at its rear end is attached to a piece which straddles the plate to which the bending fingers are attached and enters the sides of the frames. At these points springs are placed so as to press against the front side of the straddle piece, and their pressure is regulated by set screws.

*Claim.*—The spring G, formed in the carrier rod, and adjusted by means of the arm J and set screw H, substantially in the manner and for the purpose herein set forth.

**69,710.**—ANDREW V. RYDER, Germano, Ohio.—*Seeding Machine.*—October 8, 1867.—The axle turns with the wheels and carries the cylindrical seed block. The plows are regulated in depth by the adjustable attachment of the beams to the slotted ears.

*Claim.*—First, the bed piece D, provided with the ears  $h$   $h$ , as and for the purpose described.

Second, the revolving seed box  $g$ , bed piece D,

plated upright or bar  $a$ , beams A and E E, and hopper C, all constructed and combined as and for the purpose described.

**69,711.**—LEVI SCOFIELD, Farmington, Wis., assignor to himself and JUSTIN B. WAIT, same place.—*Looms.*—October 8, 1867.—Explained by the claims and illustration.

*Claim.*—First, the stop bar  $f$ , when attached to the stepping bar H, and used to stop the cams  $a$ ,  $a^1$ ,  $a^2$ , and  $a^3$ , alternately, thereby preventing the momentum of the cam shaft from carrying up too far one of the cams, that in turn would prevent the descent of the harness, and a full shed of the warp, substantially as described.

Second, the sliding bar S, when constructed with the arms  $b$  and  $b'$ , the arm  $b^1$ , set out from the face of the bar so as to allow the cam  $n$  to work against the arm  $b$ , and the cam  $h$  against the arm  $b'$  and used to operate the treadle L, substantially as and for the purpose set forth.

Third, the double cams  $h$  and  $n$ , when attached to the cam shaft R, and used to operate the sliding bar S, and at the same time holding the latter and the treadle in position, while the shuttle is thrown, substantially as and for the purpose set forth.

**69,712.**—T. J. SHIPLEY and W. A. MOODY, Montezuma, Iowa.—*Horse Collar.*—October 8, 1867.—The elastic attachment as stated allows the expansion of the collar for passage over the head.

*Claim.*—The hollow pad B, fitting over and securing the ends of horse collars, said pad having upon its inside the longitudinal rubber springs C, which springs fit over the ends of the collar, and are secured to the outside of the walls in holes  $e$  by means of the hooks  $d$ , as herein shown and described.

**69,713.**—J. H. SHIREMAN, York, Pa.—*Horse Rake.*—October 8, 1867.—The rake frame is clutched to the continually rotating axle to discharge the rake. The clutch is operated by a hand lever.

*Claim.*—First, a continuously revolving axle, or shaft B, with ratchets and pawls, or their equivalents, applied to both wheels, substantially as and for the purpose described.

Second, in a horse hay rake placing the ratchets and pawls upon the inner sides of both driving and transporting wheels, substantially as described.

Third, the combination of a driver's seat G, a pressure contrivance for holding the teeth down to their work, a continuously revolving axle which is furnished with a lifting device, and a device connected to the rake head, which, at the will of the operator, can be thrown into gear with the lifting device of the axle, for the purpose of discharging the gathered hay from the rake teeth.

**69,714.**—W. SIEMENS and J. G. HALSKE, Berlin, Prussia.—*Spirit Meter.*—October 8, 1867.—The purpose is to measure the volume of pure alcohol independent of the quantity of liquid in which the same is contained, and at the same time to measure the volume of passing liquid. To this end, although the counterwork for the pure alcohol is set in motion each time that a certain measured quantity of the spirit passes through, it is, nevertheless, only advanced so much as corresponds exactly with the volume of pure alcohol contained in it. This corresponding indication is attained by means of a curve turning upon the first wheel of the counterwork which strikes against an index moved up and down by an alcoholmeter, so that the indications of the latter and its index prescribe the limits of the angles through which the curve, and therefore the counterwork of the apparatus, can turn.

*Claim.*—First, the measuring drum, constructed and arranged as herein described, so as to rotate with a springing motion, that is to say, provided with three compartments so formed that the center of gravity of the spirit during its influx into said compartments shall lie in a vertical plane passing through the axis of the drum, substantially as shown and set forth.

Second, the alcoholmeter, in combination with its index and supporting spring, substantially as and for the purpose herein shown and specified.

Third, the mechanism herein described for imparting to the counterwork a motion which shall at all times be proportionate to the volume of pure alcohol



contained in the spirit or liquid which passes through the measuring apparatus.

Fourth, the combination with the mixing vessel N, of the pipes or tubes for the induction of the spirit or liquid arranged as described, so that when spirit of varying strength is conducted into said vessel the heavier shall enter above and the lighter below the alcoholmeter, substantially as and for the purposes set forth.

Fifth, the combination with the measuring drum and interior cylinders K, of the mechanism for obtaining a sample of the spirit proportionate in quantity to the volume of the said spirit which is measured, arranged and operating substantially as set forth.

**69,715.**—JOHN K. SIMPSON, New York, N. Y.—*Electrical Torch*.—October 8, 1867.—The insulating tube has at one end an electrophorus and at the other end a gauge cap to place over the burner. A current of electricity is passed along a wire from the electrophorus to near proximity with a wire at the burner. A spark passing from wire to wire ignites the gas.

*Claim.*—First, the herein described electrophorus consisting of the hard rubber tube *c*, the metallic plate F, and the metallic tube B, connected through the plate D, and rod *a*, with the outer surface of the rubber tube C, and through the rod *m*, and ring E, or its equivalent, with the outer surface of the handle A, arranged and operating as set forth.

Second, the perforated cup N, provided with a suitable nipple O, and uninsulated wire *w* attached to said nipple, arranged in the manner and for the purpose described.

Third, the combination of an electrophorus situated near the lower end of a torch, the perforated cup N at the upper end of said torch, and the insulated conducting wire J, between the electrophorus and the perforated cup, so arranged as to receive the spark or sparks from the electrophorus and conduct the same opposite to the end of the uninsulated wire *w*, situated above the nipple O, of the perforated cup N, the whole being arranged and operating in the manner and for the purpose substantially as set forth and described.

**69,716.**—FRIDOLIN SMITH, Tiffin, Ohio.—*Wagon Hound and Pole Brace*.—October 8, 1867.—The hounds are formed of continuous upper and under strips bent around at the rear. The strips have blocks between them through which are passed their clamping bolts.

*Claim.*—The construction of the hound and slider of the two bent strips A A', secured to the axle bolster and provided with filling pieces *b* and blocks *o*, substantially as described.

**69,717.**—H. W. SMITH, Rainsburg, Pa., and B. C. SMITH, Tolleston, Ind.—*Sleigh Brake*.—October 8, 1867.—The brake dogs are operated by cords passing around a roller in the tongue and to the hold-back straps of the harness. The cords may be connected to a roller operated by a winch.

*Claim.*—First, the combination of the brake irons F, operating ropes H, roller S, or its equivalent, tongue rope I, and sliding rope K, with each other and with the tongue and frame of the sled, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the brake irons F, operating ropes H, roller S, or its equivalent, frame L, and roller M, with each other and with the box E, and frame of the sled, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the brake irons F, operating ropes H, roller S, or its equivalent, and roller P, with each other and the frame of the sled, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the coiled springs G with the brake irons F, and operating ropes H, substantially as herein shown and described and for the purpose set forth.

**69,718.**—JOHNSON SMITH, Kansas, Ill.—*Churn Dasher*.—October 8, 1867.—The two spiral dashers draw the cream from above and below and dash the two streams together at the midheight of the churn.

*Claim.*—The shaft B, with eight horizontal arms B', to which are connected the diagonal slats C C', in such a manner that their inner ends nearly meet at the center of the shaft, so that the cream may be caught by the slat C and carried to and under the slat C' as and for the purposes specified.

**69,719.**—C. D. SNELL and J. W. PENNEY, Mechanic Falls, Me.—*Mechanical Movement*.—October 8, 1867.—The crank shaft connects by means of rods and sliding collars on a vertical standard with a second shaft that rotates at a different angle and thereby avoids the use of bevel gearing.

*Claim.*—First, the sliding collar D, in combination with the upright C, or its equivalent, and in combination with the pitmen H and K, or their respective equivalents, in manner and for the purposes substantially as described.

Second, the collar G, sliding in the sliding collar D, and in combination with it and with the upright C, or its equivalent, in manner and for the purposes substantially as described.

Third, the sliding collar G, in combination with the pitmen E and F, or their respective equivalents, and in combination with the cranks *a* and *b*, in manner and for the purposes substantially as described.

Fourth, the pitmen E F H and K, and collars D and G, in combination with the shafts A and B and cranks *a* and *b*, all substantially as above set forth and described.

**69,720.**—HENRY SPLITDORF, Brighton, Mass.—*Armor for Hoofs of Horses*.—October 8, 1867.—The metallic scales are riveted to leather backing, which is secured between the shoe and the hoof.

*Claim.*—The armor C, for protecting the feet or hoofs of horses or other animals, made substantially as described above, by fastening a series of plates to each other or to a flexible foundation B.

**69,721.**—H. D. STOVER and JOHN W. HUTCHINSON, New York, N. Y.—*Cotton Press*.—October 8, 1867.—The cotton is pressed into barrels by the plunger whose screw engages in the nut in the cross-bar above.

*Claim.*—First, the construction and arrangement of the suspended tube C within the frame A, provided with the plunger I attached to the screw rod H, adjustable cross-bar G, wheel J, guide rods E E, as herein set forth.

Second, binding the upper part of the staves of the barrel D together by means of the band M having parallel projections *b b* upon its ends, and oval links N, substantially as herein shown and described.

Third, securing the barrel D beneath the tube C and plunger I by means of the adjustable blocks K and keys L L, constructed and arranged as herein set forth.

**69,722.**—JAMES E. STRODE, Carrollton, Ill., assignor to himself and THOMAS H. STRODE, same place.—*Wagon Brace and Fender*.—October 8, 1867.—The plate is attached to the wagon box. It has depending flanges to engage the bolster, and jaws to engage the stake.

*Claim.*—The plate A having shoulders or flanges B formed upon or attached to its under side, and jaws C, formed upon or attached to its outer edge or side, substantially as herein shown and described and for the purpose set forth.

**69,723.**—JOHN B. STRYKER, Philadelphia, Pa.—*Metal Roofing*.—October 8, 1867.—Explained by the claim and illustration.

*Claim.*—A roof composed of transverse sheets *a b c*, one side of each of which is passed over and nailed to grooved strips B, and the other side soldered to the adjacent sheet over the strip and covering the edge of the first sheet, whereby neither the means of fastening nor the seams are exposed, substantially as described.

**69,724.**—FRANK TEELIN and JACOB A. SWIFT, Blossvale, N. Y.—*Sleigh Brake*.—October 8, 1867.—When the sleigh presses its connecting rod against the tongue on descending a hill, the rod drives the lever back and presses the dog into the track.

*Claim.*—The direct motion of the tongue T upon



the levers S, by means of rods A A, arranged and applied as represented and described.

**69,725.**—S. D. TUTTLE and J. H. GANS, Eaton, Ohio.—*Cultivator*.—October 8, 1867.—The doubletree works in an elongated slot in the tongue and is directly attached by cord and pulley to the pivoted standards that carry the plows and vibrating rake bearers, giving them an oscillating motion in accordance to the obstructions that they meet.

*Claim.*—First, the sliding or adjustable doubletree K applied to the draft pole G, substantially as shown and described, and connected to the plow beams E on the axle C, all being arranged to operate substantially in the manner as and for the purpose set forth.

Second, the pivoting of the draft pole G to the main frame A, in connection with the pivoted socket H and the foot-piece J, all arranged to operate substantially as and for the purpose specified.

Third, the arm or lever N provided with the foot-piece O, and the toothed segment bar P, on the front cross-piece of the frame A, the arm or lever N being attached to a plow beam E, and all arranged substantially as and for the purpose set forth.

Fourth, the rake S connected to the arms V, fitted on the axle C, and having the springs W X attached to them, substantially as shown and described.

Fifth, the application and arrangement of the rope Y, as shown and described, for the purpose of raising the rake when required.

Sixth, the combination of the sliding doubletree K, plow beams E on the axle C, and the pivoted or laterally adjustable draft pole G, all arranged to operate in the manner substantially as and for the purpose set forth.

**69,726.**—JOHN VAIL, Yankee Jim's, Cal.—*Washing Machine*.—October 8, 1867.—The pounders are operated by cam wheels on the crank shaft.

*Claim.*—First, the combination and arrangement of the sliding box or tub B, the pounders D, shafts E, cams H, and shaft I with each other and with frame A, substantially in the manner herein shown and described and for the purpose set forth.

Second, the combination of an ordinary wash-board C and movable side *b'* with the tub B, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the levers N and O and block P, with the sliding tub B and with the frame A of the machine, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the lever K, shaft L, arm M, and movable frame G, with the pounder shafts, E, and with the frame A of the machine, substantially as herein shown and described and for the purpose set forth.

**69,727.**—R. M. VAN SICKLER, New York, N. Y.—*Combined Crank, Friction Wheel and Brake*.—October 8, 1867.—Improvement on his patent February 12, 1867.—Explained by the claims and illustration.

*Claim.*—First, attaching the crank to the wheel in such a way that it may be turned or moved back so as to bring its handle to, or nearly to, the center of the said wheel, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the crank F, friction wheel C, brake strap D, and brake lever E with each other and with the pinion shaft B, substantially as herein shown and described and for the purpose set forth.

**69,728.**—FRANZ VOEGTLI, Montgomery City, Mo.—*Spinning Machine*.—October 8, 1867.—The operator stands with one foot on the treadle and feeds the rolls to the rollers, from which they pass through the hollow spindle by the rotation of which they are spun.

*Claim.*—First, the combination and arrangement of the parts F F<sup>1</sup> f f<sup>1</sup> f<sup>2</sup> f<sup>3</sup> f<sup>4</sup> and G, substantially as and for the purpose described.

Second, the automatic feeder H H<sup>1</sup> G G<sup>1</sup> and g g<sup>1</sup>, to distribute the threads upon the spool D', substantially as set forth.

Third, the general combination of all the parts as shown, substantially as and for the purpose set forth.

**69,729.**—JAMES C. WALKER, Waco Village, Texas.—*Hot Air, Steam, and Water Gauge*.—October 8, 1867.—The tubes pass through the boiler under and above water, and currents of air are induced through the tubes by the heat of the steam and hot water surrounding them. These currents are made to sound musical notes and thus indicate the condition of the steam and water in the boiler.

*Claim.*—First, the pipes L M N O, passing through steam boilers as above described, as and for the purpose set forth.

Second, the combination of the boiler A, the pipes L M N O, the valves v v v v, and the reeds or whistles c c c c, substantially as and for the purpose specified.

**69,730.**—CLEMENS WEAVER, Easton, Pa.—*Faucet*.—October 8, 1867.—The plunger, when raised, displaces the valve and the liquid flows out. To close the passage, the plunger is let go, when the coiled spring forces down the valve and checks the flow.

*Claim.*—The plunger C, sleeve B, spring D, and valve E arranged in the faucet, constructed in the manner and for the purpose set forth.

**69,731.**—R. WEST and H. F. PAUL, Concord, N. H.—*Cultivator and Harrow Tooth*.—October 8, 1867.—The flaring wings behind the tooth have an opening between them by which the seed that is dropped immediately behind may be covered and the earth that falls over be pulverized.

*Claim.*—First, extending the flaring parts of the wings of a cultivator or harrow tooth back beyond the rear edge of the body of the tooth, and having the space between the said wings open on top, to allow the surface soil to fall over the edges of the wings into the furrow made by the tooth, substantially as herein shown and described.

Second, having the wings B B of the cultivator or harrow tooth removable from the body A of the tooth, substantially as and for the purpose herein shown and described.

**69,732.**—CYRENUS WHEELER, Jr., Auburn, N. Y.—*Harvester*.—October 8, 1867.—The main frame is made in two parts hinged to and turning about the main axle as a common center. The front frame supports the driver and has the draft bar connected with it, and the rear frame carries the cutting apparatus.

*Claim.*—In combination with a main frame in two parts, and having the axle, or its equivalent, as a common center of motion, a two-armed lever to one of the arms of which it is connected the draft of the machine, while the other transmits the power of the team to the raising up of the rear frame and its connected parts, substantially as and for the purpose set forth.

**69,733.**—THOMAS WHITEMORE, Cambridgeport, Mass.—*Railway*.—October 8, 1867.—The two outer bolts have their screw threads pitched in the opposite direction, so that any tendency of the bolts to unscrew within their nuts will set their main heads firmer into the notches and so prevent the bolt holder from being raised out of place on the bolts.

*Claim.*—The bolt holder as made with its external notches formed substantially as set forth.

Also, in connection with the bolt holder, having its external notches formed as described, the arrangement of the outer bolts with screws pitched in opposite directions, as explained.

Also, the combination and arrangement of the auxiliary bolt heads with the bolt holder rails and lap bars, the whole being as specified.

Also, the combination of the bolt holder, constructed as described, with the bolts, the rails, and the lap bars, as specified.

Also, the arrangement of the check groove *b*, and the lap bar, the bolts and nuts, or the same and the holding plate, applied to the two rails, substantially as set forth.

**69,734.**—WILLIAM WICKERSHAM, Boston, Mass.—*Machine for Making Nails for Horseshoes*.—October 8, 1867.—Explained by the claims and illustration.

*Claim.*—First, in horse-nail machines, the device of two series of working rolls, one series for the side and one for the edge of the nails, so arranged that each succeeding pair of rolls from the first shall have a greater motion than the preceding pair, suited to



the increasing length of metal as it passes through the machine, and so arranged that where the rolls are formed as described, a wire of indefinite length, in passing continuously through the machine, will be completely formed into nails, or partially so formed, ready for another similar machine to finish, as described.

Second, the construction of a series of pairs of working rolls in horse-nail machines of cylindrical form with grooves or spaces on the outside, having the same form and depth extending from one end to the other of the rolls, and suited for the side or edge of the forming nails, and so arranged in the series that each succeeding pair shall have wider spaces than the preceding ones, and suited to the increasing length of the forming nails as they pass from the first to the last of the series, substantially as described.

Third, the arrangement of the working roll on the shaft with washers, which are transferable from one end of the roll to the other, in such manner as that all parts of the roll may be successively used, as described.

Fourth, the application to the rolls herein described of a stream of water, in the manner and for the purpose set forth.

Fifth, the device herein described for separating the head of the nail from the point of the succeeding nail, in the manner and for the purpose set forth.

**69,735.**—JOHN A. WILLIAMS, Elizabeth, Ill.—*Thimble Skein for Axles.*—October 8, 1867.—The socket is turned on the butt end of the skein and the skeins are connected by a rod having a right and left-hand screw that furnishes a brace to the axles. The thimble is open at the extremities. The butt end of the skein and the connecting rod are adjusted to the under side of the axle.

*Claim.*—First, the elongated skeins B B, furnished with a socket at the butt end thereof, in manner and for the purposes substantially as above set forth and described.

Second, adjusting the thimble skein beneath the axle by means and manner for the purposes substantially as above set forth and described.

Third, constructing the thimble skeins B B in one piece, with open extremities *b b* through which the wooden axletree passes, in manner and for the purposes substantially as above set forth and described.

Fourth, the connecting rod D, furnished with a right and left-hand thread, or any equivalent for the same, and setting into the sockets C C, or their equivalent, or the thimble skeins B B, in manner as and for the purposes substantially as described.

Fifth, securing the thimble skeins to the axletree by means of the bolster bolts E, working in the slots or mortises *e e*, in manner and for the purposes substantially as above set forth and described.

**69,736.**—THOMAS WILTSE, Jr., Panama, N. Y.—*Horse Power.*—October 8, 1867.—The drive wheel connects with the vertical shaft pinion, horizontal shaft pulleys, and band and crank pulleys. The bridge connects with the frame and crank pitman of the machine.

*Claim.*—The combination of the driving wheel A, having oblique teeth *a*<sup>1</sup>, formed as described, upon the under side of its rim, the vertical shaft B, horizontal shaft E, pinion wheel F, band pulley G, band or belt H, pulley I, and crank pulley or wheel J with each other and frame C, the sliding pitman box or bridge L, the frame C and crank pitman K, substantially in the manner herein shown and described and for the purpose set forth.

**69,737.**—EDWIN A. WOOD, Utica, N. Y.—*Electric Steam Gauge.*—October 8, 1867.—The galvanic battery and index are connected with the mercury column in such manner that the index will signal each successive pound of pressure upon the gauge.

*Claim.*—First, the mode, substantially as herein described, of indicating the pressure of the mercury column by means of insulated points in the mercury tube connected with like points on the index.

Second, combining with an ordinary mercury column a galvanic battery, substantially as described for the uses and purposes mentioned.

Third, the mercury column and index, constructed and operating substantially as described.

**69,738.**—RUSSELL FISK, New York, N. Y.—*Composition for Concrete Pavements.*—October 8, 1867; antedated July 20, 1867.—Composed of broken stone, coarse gravel, or iron cinders, 70 pounds; coal ashes, 25. The coarser portions are treated with pine and coal tar, laid down and rolled. The finer portions are then treated with tar and 5 per cent. of water cement, are laid upon the other, rolled and covered with sand.

*Claim.*—First, the mode, substantially as set forth, of compounding and preparing concrete blocks for paving.

Second, the mode of laying pavements by the use of concrete blocks, imbedded and united, substantially as set forth.

**69,739.**—GEORGE ABBOTT, White's Corners, N. Y.—*Corn Planter.*—October 15, 1867.—Explained by the claims and illustration.

*Claim.*—First, the clutch I and spring rod K, in combination and arrangement with the gearing and planting apparatus of a corn-planting machine, for the purposes and substantially as described.

Second, the planting leg G, connected with the driving wheel by means of appropriate gearing, in such manner that the leg may be caused to move up by the mechanism and let fall by its own gravity, and plant hills at intervals, substantially as set forth.

Third, the seed gatherer H, arranged with the seed box O, partition O<sup>1</sup>, and tube R, for the purpose of picking up and carrying the requisite number of kernels to form a hill and depositing the same in the planting leg, substantially as described.

Fourth, the valve L, placed at the foot of the planting leg and operated by means of the rod *l*<sup>1</sup>, lever *l*<sup>2</sup>, and cam F<sup>1</sup>, for the purpose and substantially as described.

Fifth, the spring rod K, operating upon the clutch wheel I, to advance or set the planting gear, substantially as set forth.

Sixth, the hill marker or projection N, near the foot of the planting leg G, by which each hill is individually marked, substantially as set forth.

Seventh, the shield P, placed in the seed box around the feed slide, for the purpose and substantially as described.

Eighth, the cam wheel F, by which a planting leg and marker and a seed gatherer, either or all, may be operated, for the purpose and substantially as described.

Ninth, the vertical slide or seed carrier H, arranged with the seed box O, partition O<sup>1</sup>, and tube, and operated by the cam F<sup>2</sup>, for the purposes and substantially as set forth.

Tenth, the slotted swivel joint *t*<sup>2</sup>, as a means of connecting the pendant *t*<sup>1</sup> to the overhanging bar T, for the purpose and substantially as described.

**69,740.**—NATHAN ADAMS, Altoona, Pa.—*Machine for Making Keys for Bolts.*—October 15, 1867.

Split keys for securing bolts are made by the dies and levers, by whose action the bar is cut, bent into shape, and then dropped.

*Claim.*—First, the device for cutting the bar, consisting of the cam *n* on the lever F, die B, and cutter H, all made and operating substantially as herein shown and described.

Second, the combination of the gauge *h* with the cutter H, die B, and cam *n* on lever F, substantially as set forth.

Third, the spring K, provided with the pin *i* and cam *y*, in combination with the bar D, substantially as described for the purpose specified.

Fourth, the construction and arrangement of the slotted plate A, pivoted dies B C, arms *e e*, pivoted bar D, slotted rod E, lever F, having cam *n*, cutter H, stationary bridge G, gauge *h*, spring K, having cam *y*, and pin *i*, all operating as described for the purpose specified.

**69,741.**—SIDNEY ALLEN, Newton, Mass., and JAS. P. SNOW, Roxbury, Mass.—*Railroad Switch.*—October 15, 1867.—The guide shoes are connected to weighted levers and operated by hand levers to bring the shoes in contact with the guide block and turn the car on to a branch track.

*Claim.*—First, the suspended, pivoted guide shoe or shoes F, constructed as described, and arranged to be adjusted between the wheel D and the raised



flange K' upon the elevated track, whereby said wheel is erowed off the raised track upon the branch track, as herein set forth for the purpose specified.

Second, the combination of the weighted or drop levers H with the suspended shoes F and frame E of the ear, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the operating levers J with the weighted levers H and with the frame E of the ear, substantially as herein shown and described and for the purpose set forth.

Fourth, the raised and flanged guide block K, constructed as described, connected with the rails of the track at the point where the branch track leaves the main track, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of the guide block L with the rails of the track, at the point where the branch track leaves the main track, when used in connection with the depressed rail and deepened track, substantially as herein shown and described and for the purpose set forth.

**69,742.**—STEPHEN M. ALLEN, Woburn, Mass.—*Artificial Leather for Floor Coverings.*—October 15, 1867.—Explained by the claims.

*Claim.*—First, the sheets, made by combining pulped or ground tanned leather scraps with vegetable fiber and pulped unfanned animal skins, to be used in the manufacture of floor coverings or carpets, substantially as before described.

Second, sheets, made by combining pulped or ground tannal and untanned animal fiber or scraps of skins with vegetable fiber, further combined with bullock's blood or fibrine, pulped and run off into sheets, substantially as before described and for the purposes specified.

Third, the stuffing, painting, staining, or printing, in the manner and for the purposes specified, sheets made by combining tanned scrap leather and vegetable fiber with untanned scraps of hides, or with the further combination of bullock's blood or fibrine, manufactured substantially in the manner and for the purposes set forth.

Fourth, as a new article of manufacture, a floor covering or carpet, made by first forming a sheet of leather scraps and vegetable fiber, combined with untanned scraps of hides, or with the further combination of bullock's blood or fibrine, the whole manufactured substantially as herein set forth.

**69,743.**—A. H. ALLISON, Charlottesville, Ind.—*Cultivator.*—October 15, 1867.—The axles are longitudinally adjustable between the upper and under bars of the ties. Bars are hinged to the fore cross beam, carrying serrated disks to break the clods as thrown up by the plows. The plow beams admit of lateral and horizontal oscillation.

*Claim.*—First, the axles *d*, in combination with ties C C, when constructed and arranged as and for the purpose herein set forth.

Second, the beams D D, the blocks H H, the rod *m*, the rods *g g*, and the disks *h*, the whole constructed and operating substantially as herein specified.

**69,744.**—LEONARD ANDERSON, Painesville, Ohio.—*Sawmill.*—October 15, 1867.—The rake of the saw is adjustable simultaneously with the raising of the head by the inclination of the slides.

*Claim.*—First, the combination of the frame A' of the vertical slideways C'' and diagonal tongues G G', operating substantially as and for the purpose herein specified.

Second, the vertical slideways C'', when used to guide and carry the head of the saw, and at the same time to carry or support the jaws of the saw guide N N, substantially as and for the purpose herein set forth.

**69,745.**—SAMUEL ANDREWS, Cleveland, Ohio.—*Safety Valve for Oil Stills.*—October 15, 1867.—An inwardly opening valve in the bottom of the still, at the top of the tar pipe, prevents the discharge of the contents in case of breakage of the said pipe. The valve may be raised by a connected chain when the still is open.

*Claim.*—The herein described safety valve, constructed and applied to oil stills, substantially in the manner as and for the purpose set forth.

**69,746.**—H. G. ARNOLD, Rochester, N. Y.—*Window Sash Fastener.*—October 15, 1867; antedated September 17, 1867.—The segmental bolt slides in the curved groove of a metallic case let into the sash. The bolt is operated by a pivoted plate, whose projection passes into a side slot to sustain the bolt when unused.

*Claim.*—A sash lock, composed of bolt H, tumbler G, and notched plate, arranged as and for the purposes set forth.

**69,747.**—MIFFLIN W. BAILY, Westchester, Pa.—*Piston Packing.*—October 15, 1867.—The packing is placed between two disks and a spiral spring within is sprung loose to keep an equal outward pressure on the same.

*Claim.*—Spiral spring S, each spring C S, applied to piston heads for pumps or any kind of engines, when combined with the packing of said piston head, for the purpose and in the manner above set forth and described.

**69,748.**—DAVID W. BARKER, New Haven, Conn.—*Ash Sifter.*—October 15, 1867.—Two bars, attached rectangularly and pivoted centrally, are oscillated above the wire sieve to cause the passage of ashes.

*Claim.*—First, in combination with the case A and sieve or netting B, the beaters D, operating substantially in the manner herein set forth.

Second, in combination with the beaters D the handle E and case A, the protecting flange *a*.

Third, the combination of the plates *m* and *n*, and sleeve *i*, with the beaters D and netting B, when constructed so as to form the bearing for the beaters, substantially in the manner herein set forth.

**69,749.**—JOHN BEA, Newark, N. J., assignor to himself and TIMOTHY D. GLADSTON, Boonton, N. J.—*Cart Saddle.*—October 15, 1867.—The enclosing material of the stuffing is attached to the edge of a plate, which is perforated to allow the insertion of stuffing. This plate is attached to another one, which is fastened to the bridge.

*Claim.*—First, the plates *b b*, attached to the bar or bow A, one at each end, in combination with the plates C C, having holes *c* made in them, and leather or other flexible material attached, which are stuffed to form pads B, substantially as shown and described.

Second, the straps D D, attached to the saddle tree between the ends of the bar or bow A and the plates *b b*, when said straps are applied to or used in combination with a cart saddle constructed in the manner substantially as herein shown and described.

**69,750.**—H. BEAN, Schuylkill, Pa., and J. D. TYSON, Lower Providence, Pa.—*Cultivator.*—October 15, 1867.—The V-shaped cultivator frames are hung to the upper frame by the rear ends, and connected by adjustable chains to the frame at their fore ends. Extensible side bars carry marking chains, which are drawn along the ground.

*Claim.*—First, the combination with the main frame A of the levers D and brace rod *d*, arranged to operate as shown and described.

Second, the sliding bar I, provided with the cord F and chains *l*, or their equivalents, when arranged to operate as and for the purposes set forth.

**69,751.**—D. C. BERNHARDT and S. F. HOUSTON, Charlotte, N. C.—*Washing Machine.*—October 15, 1867.—The oscillating frame has a single roller, which acts in combination with a series of rollers in a vertical spring frame.

*Claim.*—The frame C, having rollers D, and supported by the springs, when the same is in combination with an inclined beater frame having a roller, and the whole is constructed, arranged, and operated substantially as described.

**69,752.**—DANA BICKFORD, Boston, Mass.—*Obtaining Useful Fibres.*—October 15, 1867.—The asclepias is cultivated, cut, rolled, and broken, and is then used with or without the fibre of the bolls, either separate or mixed with other fibre.

*Claim.*—First, the preparation of the fiber of the above named weed, substantially as before described and set forth.

Second, the uniting the pulp or fiber with rubber



and other gums, also the imitating of velvet plush and other articles, as described.

**69,753.**—A. H. BOYD, Rockville, Mass.—*Device for Locking Doors and Windows.*—October 15, 1867.—The spring bolts enter the edges of the doors and sashes from within the frames and are connected by cords passing out of sight to a central device by which they are simultaneously operated.

*Claim.*—The system of bolts so connected and arranged that all the bolts may be simultaneously operated from one point, both to lock and unlock each bolt, also having an independent provision for operating it from the inside of the room, all substantially as set forth.

**69,754.**—A. N. BRENNEMAN, Lancaster, Pa.—*Shoe Holder.*—October 15, 1867; antedated October 12, 1867.—The toe and heel pieces are so formed as to allow longitudinal oscillation of the parts upon each other to increase or diminish the length of the foot.

*Claim.*—The construction and combination of the front piece A and back piece B united by a hinge C D E, in the manner and for the purpose specified.

**69,755.**—JAMES H. BRIGGS, Brooklyn, N. Y.—*Comb.*—October 15, 1867.—The comb is bound around by a metallic strip whose ribs enter grooves in the double comb. The latter may be made of two pieces and connected by a strip.

*Claim.*—The connector B, constructed as described, when provided with right angular flanges *a* filling into longitudinal grooves cut into the comb A, as herein set forth for the purpose specified.

**69,756.**—J. M. BROOKS and PERRY MUNSON, Independence, Iowa.—*Combined Pump and Measure.*—October 15, 1867.—The cylinder communicates with a receptacle and a discharge nozzle. The piston rod is graduated to enable the use of the device as a measure, and is operated by a segmental rack upon a lever.

*Claim.*—The arrangement of the scale rack D, segmental pinion G, and piston B, in combination with the cylinder A, nozzle J, and faucet H, substantially as and for the purpose set forth.

**69,757.**—REUBEN BROOKS, Jr., Rockport, Mass.—*Carriage Wheel.*—October 15, 1867.—Explained by the claims and illustration.

*Claim.*—First, the metal clamp C, constructed as described, from a plate of metal provided with the central hole *a* for the passage of the tenon of the spoke, the sides of said clamp bent around the joints of the felloes flush with the sides and tread and secured to the end of the tenon of the spoke by means of the holes *b* fitting thereon as herein set forth, for the purpose specified.

Second, joining the ends of the felloes of carriage wheels at the end of a spoke by means of clamp C, constructed as described, in such a manner that the tenon of the spoke shall pass through the hole *a* in said clamp, and firmly secured therein by pressure of the ends of the felloes, as herein shown and described.

Third, supporting the felloes by means of the shoulder of the spoke bearing against the outside of the plate C and firmly securing the ends of the felloes by means of rivet bolts passing through the holes *c c* in said clamp, substantially as described for the purpose specified.

Fourth, the insertion of rivet bolts in the holes *c c* through a clamp securing the ends of felloes of carriage wheels for the purpose of tightening said felloes, substantially as herein shown and described.

**69,758.**—GEORGE BRUCE, Corydon, Ind.—*Pump.*—October 15, 1867.—The horizontal open-ended cylinder has two pistons which are alternately reciprocated to and from each other by a rotation of a cam.

*Claim.*—The cylinder A, piston heads C, cam grooved disk H, and connecting rods hung in said cam groove, when all are constructed and arranged together substantially as and for the purpose specified.

**69,759.**—T. B. BRYSON, New Castle, Pa.—*Dumb Waiter.*—October 15, 1867.—The vertically sliding frame is balanced by a weighted cord passing over a sheave. It has shelves and may be raised to bring any one of them into desired position.

*Claim.*—The arrangement of a dumb waiter for passing up through the floor of an upper room and the spring catch operated by the rod *h*, in combination with the weight *g* and the spiral spring *n*, substantially as and for the purpose herein described.

**69,760.**—D. M. BUCKHOUT, Mount Kisko, N. Y.—*Hub and Axle for Vehicles.*—October 15, 1867.—A square metallic collar surrounds the end of axle and is attached by set screws. The collar has an annular circumferential projection passing between two annular boxes to which the spoke-holding part of the hub is attached.

*Claim.*—First, the cast metal hub provided with the circular chamber *b* and the mortises *f* to receive the tenons of the spokes, the projections *h* and the plate G to screw on the periphery of the chamber *b*, in combination with the boxes F F' fitted within the chamber *b* and the collar C and V-shaped flange D on the arm A, all arranged substantially as shown and described.

Second, the arm A fitted on the axle B and secured by set screws *a*, substantially as shown and described.

**69,761.**—GEORGE E. BURT, Harvard, Mass.—*Hay Spreader.*—October 15, 1867.—One of the ground wheels has an inner gear which engages a pinion on the fork shaft. This shaft has cross-bars by which an eccentric reel is rotated to carry forward the spring teeth. The teeth are attached to cross-pieces loosely placed on the shaft.

*Claim.*—First, the shield H constructed and arranged substantially as described for the purposes set forth.

Second, the arrangement of the forks J J', the arm *k*, the shafts *a a* and P, substantially as described and for the purposes set forth.

**69,762.**—HENRY G. CADY, St. Louis, Mo.—*Well Point.*—October 15, 1867.—The tube has a projection which traverses a vertical slot in the pipe attached to the pyramidal point. At the bottom of the slot are side cavities to receive the projection and prevent detachment. When the projection is turned out of the side cavity a spring disengages the outer tube and point and discloses the gauge through which the water runs.

*Claim.*—The manner of connecting the tube K to the point B and the tube P to the pipe A and to each other, as above described.

**69,763.**—H. G. CADY, St. Louis, Mo.—*Pump Valve.*—October 15, 1867.—The rubber valve seat is fitted within the shoulder on the head of the cylinder. The weighted valve is cut in a second disk of rubber that is also fitted within the shoulder.

*Claim.*—A valve constructed of the cylinder H, beveled packing or seat B, flexible ring F with its weighted tongue A, all arranged substantially as shown and described.

**69,764.**—ARCHIBALD CAMPBELL, Peoria, Ill.—*Hay Raker and Loader.*—October 15, 1867.—The rake teeth consist of bars of iron, bent into segments; the forward and upper portion guides the hay up to the elevator when in action, and enters circumferential grooves in the lower rake drum when out of action. The teeth rest on their lower bars. The rake or elevator may be thrown out of action by a man upon the wagon. The upper section of the elevator is vertically adjustable.

*Claim.*—First, the rake head H, when hinged to the rear cross-bar of the frame A, and provided with teeth I, bent in such a manner that the upper part of their front portions shall extend above the rollers F, and return to the head H, forming an acute angle, said teeth and rake head adjusted by means of the set screw Z in the under part of the cross-bar, as herein described for the purpose specified.

Second, the arrangement of the carrier frame J, constructed as described, roller K upon its vertical part, carrier L, pulleys F, frame A and adjustable rake and teeth H I, as herein described for the purpose specified.

Third, the arrangement of the adjustable pivoted frame N, roller P, carriers L R, uprights O, roller K and frame J, as herein described, for the purpose specified.

Fourth, the combination of the guides S with the



upper carrier frame N, substantially as herein shown and described, and for the purpose set forth.

Fifth, the slotted uprights O, in combination with the pivoted carrier N and frame A for adjusting said carrier to the varying height of the loaded hay, as herein shown and described.

Sixth, the combination of the bent lever or arm V and rod W, with the rake shaft H and frame of the machine, substantially as herein shown and described, and for the purpose set forth.

Seventh, the arrangement of the levers J, clutches G D, shaft E, rods U, rollers F, and shafts of wheels B, as herein described for the purpose specified.

**69,765.**—M. B. CARLEMAN, Chicago, Ill.—*Vapor Bath*.—October 15, 1867.—The vapor generator has a drip cup at top, and a hollow metallic partition that divides the generator into two compartments; the chamber below holds the water or medicinal preparation. Lateral passages utilize the heat from the hollow partition. A tube conveys the vapor to the individual on the chair.

*Claim.*—First, the cylinder or vessel H, when divided into an upper and lower chamber by the block K, substantially as and for the purposes specified.

Second, the reservoir or cup J, when provided with a stop cock I, in combination with the vessel H, substantially as specified.

Third, the block K, when provided with the recess e, and one or more lateral passages f, substantially as described.

Fourth, the vapor generator H, when provided with the block K, in combination with the pipe G, constructed and operating substantially as shown.

Fifth, the cover N, when provided with the opening or slit k and the lappels O, constructed substantially as and for the purposes specified.

Sixth, the combination of the generator H, cup J, block K, with the chair or couch A B and cover N, substantially as and for the purposes specified.

**69,766.**—EDWIN CARRINGTON, West Meriden, Conn.—*Drapery Hook*.—October 15, 1867.—The drapery ring is received in an inclined slot, and slips into a ring of larger size, from which it is not liable to become accidentally detached.

*Claim.*—The herein-described drapery hook, formed by an upward inclined slot d, opening into a recess a in the metal of larger diameter than the width of the slot, and formed upon a base so as to be secured, substantially as specified.

**69,767.**—A. J. CHASE, Boston, Mass.—*Rope or Line Holder*.—October 15, 1867.—The holder screws into a post, and the line is laid over a pivoted clamp, whose oscillation binds the line against a stationary shoulder.

*Claim.*—First, the combination with the supporting plate or bracket c, and stud or curved projection f of the swiveled clamp d, under the arrangement and for the operation as set forth.

Second, the combination with the bracket c, curved projection f and swiveled clamp d of the plate a and screw, or equivalent fastening device, formed in one piece with said plate, substantially as and for the purposes herein shown and set forth.

**69,768.**—LUCIUS C. CHASE, Boston, Mass.—*Blanket Fastener*.—October 15, 1867.—One end of the strap is secured by rivets, and a shield and the perforated free end is placed over a stud and through a loop.

*Claim.*—First, the arrangement of stud e and plate b, in connection with each other, and also with loop d, when fastened to a blanket by means of a shield a and rivets e f, substantially as and for the purpose described.

Second, and in combination therewith the strap g, slotted at h, when fastened to the blanket between shield a' and twin washer j by rivets e' f', as and for the purposes described.

**69,769.**—JACOB L. CHEVALIER, Newark, N. J.—*Composition for Sausages*.—October 15, 1867.—Composed of fish, 7; pork or lard, 6; potatoes, 3 parts; chopped and made up in guts or dabs.

*Claim.*—In the preparation of sausages, the com-

bination of materials herein specified about in the proportion as set forth.

**69,770.**—CYRUS C. CLAPP, Hartford, Conn., assignor to himself and R. M. BURDICK, same place.—*Device for Turning the Leaves of Books*.—October 15, 1867.—The frame is attached to the book stand by hooks. The rack end of the pawl is depressed and the plate is pressed down by its knob. The arms move from left to right, and engaging the clips to the leaves of the book, they are turned by pressing the pedal.

*Claim.*—First, in a leaf-turning device, the combination of the pedal r, shaft s, arm t, spring pawl u, ratchet n for holding or releasing the wheels f, substantially as described.

Second, the clips l with the cord 3, secured loosely in the holes 2 of the arms i, substantially as and for the purpose described.

**69,771.**—LUCAS C. CLARK, Plantsville, Conn.—*Trace Fastening*.—October 15, 1867.—The trace passes through the loop, is bent sideways and the loop is then placed over the pin on the end of the whiffletree.

*Claim.*—The cock-eye A, the guide or fastener C when attached to the whiffletree B, the whole arranged and used substantially as described.

**69,772.**—JAMES COLBATH, Worcester, Mass.—*Valve for Steam Engines*.—October 15, 1867; antedated September 28, 1867.—The reciprocating piston and cylindrical piston valve are so arranged that when the former, by connection with the operative portion of the engine, is moved in one direction, steam is admitted to the piston valve which is thereby moved in the required direction.

*Claim.*—First, the combination of the piston B, constructed as described with the cylindrical piston valve D, operating as and for the purpose set forth.

Second, the enlarged recesses q' near the ends of the piston valve D in combination with the apertures r r' communicating with the spaces o o' in the steam chest, as and for the purpose specified.

**69,773.**—J. E. COWDERY, Wheatland, Iowa.—*Sash Frame*.—October 15, 1867.—For the purpose of making a tighter joint at the meeting strip, the tongued and grooved portions of each fit into each other.

*Claim.*—In a sash frame facing the meeting rails A A of each sash with metallic trough-shaped lips B B, so that the tongue of each will enter the groove of the other when both sashes are closed, substantially as and for the purpose set forth.

**69,774.**—S. W. COX, New Haven, Conn.—*Scale*.—October 15, 1867.—The pin on the indicator engages the recess in the spring that supports the scale and actuates the indicator which, passing through a slot in the bed piece, indicates the weight.

*Claim.*—A scale for weighing letters, &c, constructed so as to operate substantially as described.

**69,775.**—THOMAS CRANE, Fort Atkinson, Wis.—*Knitting Machine*.—October 15, 1867.—This belongs to that class of knitting machines wherein two parallel rows of needles are used, arranged to reciprocate in grooves formed in the surfaces of inclined plates, and operated by sliding cams applied to the reciprocating frame that also moves the yarn carrier. The device presses upon the last-formed loops to allow the casting-off action with certainty.

*Claim.*—First, the application of pressure to the work at a point which is directly beneath each needle for the purpose of holding down the loops last formed during the ascent of the needles, thus maintaining such a condition of the loops as will insure their being cast off from the needles with certainty, substantially as described.

Second, the pressure bars j applied to a sliding frame G or its equivalent, which moves in concert with the yarn carrier g, substantially as described.

Third, providing for moving the device which holds down the work to one side of the jacks when not required to work between the jacks, substantially as described.

Fourth, the combination of one or more pressure bars j, or their equivalent, with one or two straight rows of needles, substantially as described.



Fifth, extending the ends of the jack frame beyond the ends of the rows of jacks so as to admit of the removal of bars *j* longitudinally from between the jacks, substantially as described.

**69,776.**—THOMAS CRANE, Fort Atkinson, Wis.—*Knitting Machine.*—October 15, 1867.—Straight rows of "latch" needles are applied to inclined plates, and have reciprocating motion from cams applied to the lower surface of a reciprocating carriage, which is supported on the inclined surfaces of the jack frame. The work is held down in place during the ascent of the needles by a comb of spurs beneath the needle beds, the combs passing through the fabric near the loops.

*Claim.*—First, the employment of spurs or combs arranged and operating substantially as described for the purpose of holding the work in proper position during the ascent of the needles.

Second, the notched plates *J J*, in combination with levers *p p*, or other equivalent means for moving the slotted bars *G G* and the comb spurs, substantially as described.

Third, in combination with a knitting machine having one or two straight rows of needles, holding the work down in place during the ascent of the needles by a device or devices arranged beneath the needle beds, substantially as described.

**69,777.**—JOHN CURTIS, St. Charles, Minn.—*Animal Trap.*—October 15, 1867.—When the forked rod is tripped the springs draw the gate down, which raises the wire loop. If the loop misses its hold the gate still closes the trap.

*Claim.*—The combination of the sliding gate *C*, springs *D*, lever *E*, wire loop *H*, cord *I*, and forked rod *J*, or its equivalent, with each other and with the box *A*, substantially as herein shown and described and for the purpose set forth.

**69,778.**—MOSELEY S. CURTIS, New York, N. Y.—*Hose Coupling.*—October 15, 1867.—The coupling is secured by blocks that slide in eccentric grooves formed in the movable section of the coupling.

*Claim.*—First, securing the parts *A* and *B* of the coupling to each other by means of the sliding blocks *C*, substantially as herein shown and described.

Second, operating the sliding blocks *C* by means of eccentric grooves formed in the movable part *D* of the coupling, substantially as herein shown and described.

**69,779.**—W. F. DAUGHERTY, Mt. Pleasant, Iowa.—*Bed Bottom.*—October 15, 1867.—The hooks attached to the slat engage in the links that are connected to the spring clevises.

*Claim.*—The clevis *E* as constructed and arranged in combination with the spring *C* and hook *c*, substantially as described and operating as set forth.

**69,780.**—JUSTUS DAY, Holley, N. Y.—*Broom Clamp.*—October 15, 1867.—Improvement on his patent, November 27, 1866.—The circular caps are secured outside the levers corresponding with the socket, and leaving a slot between them and the levers to facilitate the attachment of the wire. The sockets are beveled from one side to take a better hold on the broom stuff.

*Claim.*—The employment of the caps or blocks *M M* attached outside the clamp, and leaving the slot or space *D* for the winding of the wire, as herein set forth.

**69,781.**—GAIUS S. DEANE, Grand Rapids, Mich.—*Arch bar and Support for Constructing Furnaces for Evaporating Pans.*—October 15, 1867.—The andiron support the wood in front and ribbed bars support the pans at top of the arch. The front bar has a flange to protect the pans while feeding the fire, and the rear bar supports the front of the chimney.

*Claim.*—First, the bars *A B* and *C*, constructed substantially as herein shown and described for the purpose of supporting evaporating pans upon arches in making sugar, and for similar uses.

Second, the double andiron *D*, constructed substantially as herein shown and described and for the purpose set forth.

**69,782.**—THOMAS B. DEXTER, Lynn, Mass.—*Steam Gauge Cock.*—October 15, 1867.—The valve is closed by screwing the stem either in or out so that when one end of the valve or its seat becomes worn the other may be used.

*Claim.*—A gauge cock provided with the double-headed valve *e*, arranged to operate in combination with the valve seats *M* and *N*, located at opposite ends of the chamber *B*, substantially as shown and described.

**69,783.**—G. W. DISMAN, Chesterville, Ohio.—*Alloy for Journal Boxes and other Purposes.*—October 15, 1867.—Improvement on his patent, February 27, 1866.—Composed of copper, 1 pound; glass, 4 ounces; borax,  $\frac{3}{4}$  ounce; prussiate of potash,  $\frac{1}{2}$  ounce; tin, 1 ounce.

*Claim.*—A composition for journal boxes, bearings, and other mechanical purposes, composed of copper, glass, borax, prussiate of potash and tin, as herein described and for the purposes specified.

**69,784.**—WILLIAM T. DUVALL, Georgetown, D. C.—*Apparatus for Separating Gold, &c.*—October 15, 1867.—The water is forced by a head or by a pump up through a vertical series of annular deposit chambers, so arranged that each one has a larger orifice and consequently less violent current than the one below. The heavier particles are gradually rotated by gravity and deposited in the lower chambers.

*Claim.*—First, the series of chambers or traps *e*, so constructed and arranged that greater freedom of egress is afforded in each successive chamber, whereby the velocity of the current is reduced and the heavier particles are deposited successively therein according to their specific gravity, substantially as and for the purposes set forth.

Second, in combination with said series of chambers *e* a centrifugal or other suitable pump to force the current and at the same time to agitate the earthy liquid, substantially as and for the purposes specified.

Third, the arrangement of the pump at the top of said series of chambers so as to operate the apparatus by producing a vacuum therein, essentially as and for the purposes described.

Fourth, the arrangement and combination of the pump and the series of chambers *e*, as shown in Fig. 8, with the straight suction pipe *J*, essentially as and for the purpose set forth.

Fifth, in combination with said series of chambers *e* the pipe *D*, for operating by a column or head of water substantially as described.

Sixth, the chambers *e* constructed in separate parts, as represented, the nozzle of each protruding into the chamber of the next, forming annular receptacles, substantially as and for the purposes specified.

**69,785.**—J. R. EVERTSON, Mount Vernon, Indiana.—*Grain Dryer.*—October 15, 1867.—Improvement on his patent, November 27, 1866, No. 59,989. The supplementary furnace allows the rear portion of the oscillating pan to be the most heated; the steam of the lower pan escapes at the slit and the grain is turned over by falling down the step so as to be the more thoroughly exposed to the heat.

*Claim.*—First, the combination of two or more furnaces *D E* with the oscillating pan *A* in such a way that the flue of each preceding furnace may open into the upper part of the succeeding furnace, substantially as herein shown and described and for the purpose set forth.

Second, forming offset, shoulder, or step *a'*, in the oscillating pan *A*, at or near the point or points at which the flue of the preceding furnace enters the upper part of the succeeding one, substantially as herein shown and described and for the purpose set forth.

Third, forming one or more openings or slits *h'* in the cover *H*, at or near the offset or offsets *a'*, substantially as herein shown and described and for the purpose set forth.

**69,786.**—DAVID EYNON, Richmond, Va.—*Slotting the Lips of Railroad Chairs.*—October 15, 1867.—The slots are cut by a hooked cutter which works from the inside, outward, and cuts the slot at a single stroke, leaving no burr on the inside of the chair.

*Claim.*—The method herein described of slotting



railroad chairs. Also, the hooked cutter, constructed as described.

**69,787.**—L. B. FLANDERS, Philadelphia, Pa.—*Transmitting Rotary Motion*.—October 15, 1867; antedated October 1, 1867.—The spur wheel engages the worms on the tangential shaft, whose bevel pinions mesh together, and one of them, being extended, has a second pinion which engages a pinion on a shaft whose bearings are in a frame, which has a capacity for oscillation on the said extended tangential shaft on which it is sleeved.

*Claim.*—The shafts B and C, geared together and each furnished with a worm *f* gearing into a wheel D, in combination with an adjustable frame E, shaft F, and bevel wheel *l* gearing into a bevel wheel on the shaft C, the whole being constructed and operating substantially as described.

**69,788.**—DANIEL FLINT, Sacramento, Cal.—*Gate*.—October 15, 1867.—The heel stile of the gate is pivoted above in an oscillating forked bar, which is moved by cords extending in either direction. The motion of the hinge piece sways the gate in one direction or the other. Automatic catches retain the gate in position till the forked hinge piece is moved.

*Claim.*—The combination and arrangement of a crotched hinge F, with forked arms and the cords G G' and weights II', with the automatic catches N N', all substantially as described and for the purposes set forth.

**69,789.**—EDWARD F. FLOOD, Chicago, Ill.—*Wagon Reach*.—October 15, 1867.—For the purpose of enabling the wagon to "turn short," the rear is bent into an arch above the fore wheels, while resting upon the circular sway bar on the fore carriage.

*Claim.*—First, a curved or bent reach, when so constructed that the line of draft is the same as in the straight reach, and so that the reach rests on and is supported by the sway bar, as in the ordinary reach, substantially as and for the purposes set forth.

Second, the curved reach A, in combination with the iron *e* of the sway bar, when such iron is extended and so constructed as to furnish a support for the reach in all positions, substantially as and for the purposes mentioned.

**69,790.**—HENRY R. FOOTE, Oil City, Pa.—*Furnace for Steam Boilers, &c.*—October 15, 1867.—The retort above the grate in the furnace is heated by the fuel and contains carbonaceous matter, which decomposes the steam passed through it. The gases thus evolved are mixed with air and are burned, or assist in the combustion of the gases evolved from the fuel on the grate.

*Claim.*—First, the combination with a furnace of the retort A, constructed substantially as described, when arranged to be used in connection therewith, for the purposes set forth.

Second, the combination and arrangement, substantially as described, of the retort A within a furnace, and connected to the boiler by the pipe F and with the reservoir H, as described.

Third, the admixture of air, by means of an air pump or its equivalent, with the gases obtained from the decomposition of steam by means of the heated carbon in the retort before ignition, when used in combination with an ordinary furnace, substantially as described.

Fourth, the admixture of the vapor of hydro-carbon, in the manner described, with gases obtained from the decomposition of water or steam, in the manner described, for the purpose of generating heat in connection with the furnace of steam boilers, substantially as herein described.

**69,791.**—I. L. FRANKEM, Indianapolis, Ind.—*Damper*.—October 15, 1867; antedated September 14, 1867.—The lower cut-off is placed so as to regulate the fire, and the others at each story, and connected by a rod with the former, so that their motions and positions correspond.

*Claim.*—A draft regulator, having tube A, conduit B, rod D, and a series of cut-offs, as described, substantially as herein specified.

**69,792.**—WILLIAM A. FRY, Worcester, Pa.—*Pump*.—October 15, 1867.—The pump and valve

chambers are hollowed out of and are made in the contiguous faces of three wooden sections, which are then bound together to form the body of the pump.

*Claim.*—The within-described body of a pump, composed of the three detachable sections *a a*<sup>1</sup> and *a*<sup>2</sup>, connected together and inclosing passages and chambers, all substantially as described.

**69,793.**—JOSEPH N. GASTON, Lyons City, Iowa.—*Buckle*.—October 15, 1867.—The buckle has five cross-bars, the strap is interwoven between them, and stop pieces, riveted to the strap, catch upon the bars in lieu of a tongue.

*Claim.*—The buckle frame E and stops D D, when constructed, arranged, and operating substantially as and for the purposes set forth.

**69,794.**—AUSTIN GODFREY, Dupage, Ill.—*Hay Raker and Loader*.—October 15, 1867.—The apparatus is fastened to and precedes the wagon. The rake is adjustable by the bar and handles and raises the hay, which is delivered by the rotary cylinder to the elevator, which discharges it into the wagon.

*Claim.*—First, the adjustable rake *a a a*, in combination with the shoe *h*.

Second, the revolving cylinder *c*, in combination with the adjustable rake *a a a*, shoe *h*, and elevator *f f f*, when constructed and operating in the particular manner and for the purposes set forth.

Third, the frame *i*, with its fastenings to the main frame *b*, as set forth, in combination with the cylinder *c* and rake *a a a*, and reach or fastener *g*, when constructed and operating conjointly in the particular manner set forth.

**69,795.**—MICAHAH C. GORDON, Knightstown, Ind.—*Churn*.—October 15, 1867.—The lower disk has tubes with contracted nozzles which eject the cream upon the under side of the upper disk.

*Claim.*—First, the dash C with tubes D D' D'' D''', &c., Fig. 2, with gradually tapering diameters, by means of which dash and tubes the milk is forced upward in jets and the globules containing the butter broken, and thereby the separation of the butter rapidly and effectually accomplished, substantially as and for the purpose set forth.

Second, the dash C, tubes D D' D'' D''', &c., Fig. 2, in combination with breaker E, Fig. 2, so arranged that the milk, when forced in jets through tubes D D' D'', &c., in dash C, is violently thrown against the breaker E, and the breaking of the globules or particles of milk, and the separation of the butter therefrom, are rapidly and effectually accomplished, substantially as and for the purposes set forth.

**69,796.**—D. C. GOULD, Sterling, Ill., assignor to himself, ELIZABETH A. McCARTY, and EPHRAIM F. BROCK.—*Medical Compound*.—October 15, 1867.—Cholera remedy, composed of creosote, 1 part; sulphuric acid, 1; tincture of opium, 2; tincture of kino, 4; sulphuric ether, 1.

*Claim.*—A medical compound, composed of creosote, sulphuric acid, tincture of opium, tincture of kino, and sulphuric ether, combined and prepared substantially as specified.

**69,797.**—MARCUS GOULD, New York, N. Y.—*Apparatus for Cooling Liquids*.—October 15, 1867.—The liquid flows down a wide, shallow, spiral channel, around a central chimney; an intervening channel carries water to cool the liquid.

*Claim.*—First, the channel A, in combination with the air passages C, either with or without the water passages B, as and for the purposes specified.

Second, the air passages C and the chimney D, when arranged and operating with the channel A and water passage B, substantially as described and for the purposes specified.

**69,798.**—JOHN GRABNER, Warsaw, Ind.—*Heat-Radiating Attachment for Stove Pipes*.—October 15, 1867.—In the double-conical drum is a series of conical plates, elevated or lowered by the racks and the pinion. The upper cap and cone are attached to one rack bar and the other cones to the other rack bar, so as to move coincidently and in opposite directions.

*Claim.*—The combination of racks B B, pinion P, cap M, flange *n*, and rod D, arranged to operate the



damper cones F G H, substantially as and for the purpose set forth.

**69,799.**—J. G. GREENE, Port Henry, N. Y.—*Panel Table*.—October 15, 1867.—The table occupies vertical grooves in the frame, and to arrange for use is lifted, and then brought to a horizontal position, resting on a bar and with its end catching below a cap piece.

*Claim.*—The combination of the sliding pivoted panel B with the grooved frame A, in which it works, and with the top or cap D of the article or casing, substantially as herein shown and described, and for the purpose set forth.

**69,800.**—J. T. GREEN, Marquette, Wis.—*Combined Door Plate and Letter Box*.—October 15, 1867.—The door plate has provision for several slips containing the names of the occupants, and has a flap covering a chute leading to a letter box, whose serrated plate prevents the surreptitious abstraction of letters from the outside.

*Claim.*—First, the door plate C, provided with sliding panels *b b*, in combination with panels *a g*, substantially as and for the purpose set forth.

Second, the letter box H, provided with the serrated guard plates D E, door F, and inclined bottom *h*, in combination with the door A, slat B, and plate C, all arranged and operating substantially as and for the purpose herein set forth.

Third, the combination of the door plate and register provided with the springs *c'*, and mail box provided with protectors, all arranged, combined, and operating as and for the purpose set forth.

**69,801.**—DAN GUPTAIL, Elgin, Ill., assignor to himself and H. N. MOSELEY, same place.—*Cultivator*.—October 15, 1867.—The teeth of the cultivator are pliable and are supported in the rear by pendent bars, which limit their backward motion.

*Claim.*—The elastic or spring shovel B, in combination with wedge or key L, substantially as and for the purpose set forth.

**69,802.**—W. D. HARRELL and H. M. HALL, Osgood, Ind.—*Self-acting Fly Fan*.—October 15, 1867.—A double set of clock gearing gives a rotary and reciprocating motion to the fans, which may be more or less elevated by joints in the fan arms, and may be turned more or less on edge, to act as a check to the speed.

*Claim.*—First, the arrangement of base A, stud shaft B, and revolving frame C, furnished with two distinct sets of clock work, for reciprocating and horizontally rotating motion of one or more fans, either singly or combined, as set forth.

Second, the provision of the hinged connections of the fan arms for the purpose stated.

Third, in combination with the subject of the first claim the stops H and Q for arresting the rotary and vibrating motions of the fans either jointly or severally.

**69,803.**—CAMRELS A. HARRIS, Austin, Ark.—*Garden Plow Cultivator*.—October 15, 1867.—The plow is vertically adjustable by its forward brace, and is laterally adjusted, and inclined by the sliding of the standard on the transverse round of the handles.

*Claim.*—The peculiar combination of the several parts forming a valuable and efficient garden cultivator or hand plow, set forth in accompanying drawings and described in specification, whether constructed of wood, metal, or any other material, substantially the same or answering the same purpose.

**69,804.**—THOMAS S. HARRIS, Lockport, Ill.—*Wagon Jack*.—October 15, 1867.—The movable block slips upon the standard, being raised by the engagement with its rack bars of the pivoted segment racks of the oscillating lever.

*Claim.*—The peculiar and particular combination and arrangement of the parts described, as and for the uses and purposes set forth.

**69,805.**—THOMPSON HEATON, Farmington, Ill.—*Carriage Tongue Holder*.—October 15, 1867.—The leather holder is lapped round a thimble which rolls upon the bar of the staple attached to the neck yoke.

*Claim.*—The following only, viz: the metallic sta-

ple and roller or lining in upper end of leather holder with the form of the holder, all in the combination and for the uses herein substantially as set forth.

**69,806.**—N. HELLINGS, Philadelphia, Pa.—*House for Preserving Fruits and other Articles*.—October 15, 1867.—Explained by the claims.

*Claim.*—The arrangement of the walls, floors, and ventilating apparatus as above described, the use of wooden surfaces with non-conducting or poor conducting linings or blank spaces between all inner surfaces and the outer walls or the earth, the arrangement of ventilating entrances at the level of the ice floor with hatches opening down to the storage rooms and enclosed spaces to carry off bad air through the mass of ice upward when it is light air, and downward out at the bottom of the entrance doors when it is carbonic acid gas, or like heavy air, as described above, the light air passing through the upper space above the ice and thence out at the windows of the observatory.

Also, the arrangement of the ice floor as described, the arrangement to prevent dripping from this floor, the open space between the joists on which the iron floor lies, the copper-covered, narrow pitched roof to receive water from the melting ice, and the suspended drip floor on which this water falls before passing off in the drainage troughs.

Also, the combination of all these parts and devices as making up a whole all parts of which are essential to the preservation of the air pure and at the necessary low temperature and free from any excess of moisture or any deposit of moisture on the floors, walls, or any part of the storage chamber.

**69,807.**—GEORGE H. HOKE and JOHN A. BROWN, Elizabeth, Ind.—*Baling Press*.—October 15, 1867.—The follower is operated by toggle levers which are actuated by cords winding around a vertical barrel. The pressing cord winds around a portion of smaller diameter than that on which the retracting cord is wound. The pressing cord acts through a lever to increase the pressure.

*Claim.*—The combination and arrangement of the toggle joint with arms F F', connected by the strap *b*, the beater D, the stirrup G, and lever H, constructed and operating substantially as and for the purpose herein described.

**69,808.**—ARCHIBALD W. HOPKINS, New York, N. Y.—*Metallic Chair*.—October 15, 1867.—Explained by the claim and illustration.

*Claim.*—A chair or seat formed with a back or seat of interlaced and corrugated or undulating wire and galvanized or tinned after the chair has been made, as and for the purposes set forth.

**69,809.**—D. S. HUMPHREY, East Townsend, Ohio.—*Farm Fence*.—October 15, 1867.—The pickets are woven in between the horizontal wires.

*Claim.*—First, the herein described fence when the wires employed in its construction are so arranged as to support the slats or pickets, in the manner substantially as set forth.

Second, the arrangement of the wires B and pickets D, in combination with the posts, constructed as and for the purpose set forth.

**69,810.**—JOHN HUNT, Jr., West Hampton township, N. J.—*Wagon Jack*.—October 15, 1867.—The lever is fulcrumed in the frame and the rack bar passes through a slot in the lever, its teeth being engaged by a pin. It is locked in position by a hinged, perforated plate, which supports the end of the lever.

*Claim.*—The box A, hinged plate C, lever A', and the ratchet prop B, substantially as and for the purpose herein shown and described.

**69,811.**—NATHANIEL JENKINS, Boston, Mass.—*Packing for Joints, Valves, &c.*—October 15, 1867.—Composed caoutchouc, 8; mica, 15; shellac, 4; stearite, 3; sulphur, 1; lampblack, 1; wood charcoal, 1 part; pulverized, mixed, and vulcanized.

*Claim.*—First, the employment of pulverized mica, intimately mixed before vulcanizing, with the constituents of vulcanized rubber, as and for the purpose described.

Second, the employment of pulverized wood charcoal, intimately mixed before vulcanizing with the



constituents of vulcanized rubber, as and for the purpose described.

**69,812.**—JOHN C. JEWETT, Buffalo, N. Y.—*Refrigerator*.—October 15, 1867.—The ice box has an arched bottom and perforated depressions that connect with the drip pans. A large refrigerating surface is thereby exposed to the air of the preserving chamber and the temperature is reduced by contact of the drip.

*Claim.*—Constructing the ice-box of refrigerators with the arched bottom *d*, in combination with the legs or depressions *e e*, provided with perforations *i i*, and the shallow pans *j j*, arranged and operating as and for the purposes set forth.

Also, the combination of the door *G* and lid *P*, with the ice-box *B*, when constructed, arranged, and operating substantially in the manner and for the purpose specified.

**69,813.**—JOHAN JOHANSEN, Springfield, Ill.—*Mangle*.—October 15, 1867.—The end of the shaft of the operating bevel wheel traverses an endless oblong groove in a similarly shaped plate, with an inside gear engaged by the said wheel alternately on the upper and lower sides to reciprocate the weight box.

*Claim.*—First, the frame or bar *E*, pivoted at its ends to the ends of the weight box of the mangle, and having an endless rack and an endless groove formed upon its side, substantially as herein shown and described and for the purpose set forth.

Second, the combination and arrangement of the pinion wheel *J*, shaft *G*, and adjustable slotted support or bearing *I*, with the pivoted frame or bar *E*, and with the slotted bar *F*, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the rollers *N*, with the projecting ends of the bearing *I*, and with the frame or bar *E*, substantially as herein shown and described and for the purpose set forth.

**69,814.**—CHARLES W. JONES, Philadelphia, Pa., assignor to himself and HIRAM W. STOUT, same place.—*Crossing for Street Railways*.—October 15, 1867.—The cruciform plate is placed at the intersection of the rails, and has depressions to receive the rail ends, which are bolted to it.

*Claim.*—First, a cruciform plate *E*, combined with the rails of a street railway at the intersection of the same, substantially as described.

Second, the beveled ends *m m* of the treads, for the purpose specified.

**69,815.**—ANSON JUDSON, Brooklyn, N. Y.—*Lamp*.—October 15, 1867.—The cone is of glass. The chimney is clasped by a wire which is hinged to a post on one side and catches in a post on the other side. The hinge post has a chimney rest.

*Claim.*—First, the construction of the burner of a flat-wick kerosene or coal-oil lamp with two or more stationary supports *D* and *F*, or their equivalents, said supports being permanently attached to the burner or forming portions of the same, and extending upward above the body thereof, substantially as and to the effect hereinabove set forth.

Second, the catch or device *G*, or its equivalent, substantially as and to the effect specified.

Third, the combination of the stationary supports *D* and *E* and clasp *F* and burner *B*, or their equivalents, as and to the effect specified.

Fourth, the construction of the catch *G* in one piece with the clasp *F*, substantially as herein specified.

**69,816.**—JOSEPH KAYLOR, Reserve township, Pa.—*Machine for Making Patch Bolts*.—October 15, 1867.—The bolt is swaged into form by longitudinally and transversely-sliding dies actuated by cams.

*Claim.*—In a machine for making patch bolts, the arrangement and use of a pair of recessed dies, which, when brought together, form a cylindrical cavity for the shank and a conical cavity for the shoulder of the bolt, in combination with a swage or upsetting tool, having a cavity of polygonal cross-section, for shaping the head and, at the same time, upsetting the shoulder of the bolt in the conical cavity of the dies, constructed and arranged substantially in the manner and for the purposes hereinabove set forth.

**69,817.**—PATRICK KELLY, Nashville, Tenn.—*Spark Arrester*.—October 15, 1867.—The sparks are arrested by the cap, deflected down the flue, and discharged through the smoke box to the ground.

*Claim.*—The combination of the spark arrester *F*, cone *E*, flue *D*, drum *C*, cap *G*, conductor *J*, tube *K*, band *H*, and adjustable ring *c*, as herein set forth, for the purpose specified.

**69,818.**—HENRY KILLAM, New Haven, Conn.—*Machine for Compressing Carriage Wheels*.—October 15, 1867.—The clamping bars have racks which engage convolute grooves in the face of an annular plate, so that a partial rotation of the wheel will tend to compress the rim.

*Claim.*—The combination and arrangement of the jaws *B* and their guides or plates *A* with the plate *C*, when constructed so as to operate substantially in the manner herein set forth.

**69,819.**—GEORGE P. KIMBALL, San Francisco, Cal.—*Axletree for Wagons*.—October 15, 1867.—The axle is of steel, and it is clipped to a wooden bar. It is widened and thinned toward the midlength to render it light and elastic.

*Claim.*—The combination with a superposed wooden axle bed of the steel plate or spring axletree *A*, constructed and arranged for operation substantially as herein shown and for the purposes set forth.

**69,820.**—AMBROSE KOHLER, Boston, Mass.—*Hot-air Furnace*.—October 15, 1867.—The calorific current has direct central ascent when desired, or it may be reverberated by a damper and find exit through an annular flue space, between two concentric air spaces.

*Claim.*—In combination with the flame chambers *f* and *x* and the hot-air chambers *g* and *n*, the arrangement of the series of flues *l* running from the chamber *x* into a flue chamber directly under the main flue *e* and over the flame chamber *f*, substantially as shown and described.

**69,821.**—JAMES F. LATIMER, Detroit, Mich., assignor to ELIZA ELLSWORTH.—*Apparatus for Accumulating Power*.—October 15, 1867.—The slotted segments are eccentrically hung on levers which are oscillated by a hand lever. The slots are traversed by the shaft, which receives motion from the friction of the same, their eccentric position causing them to oscillate by the power which is radially exerted upon them.

*Claim.*—First, the combination and arrangement of the rods *M M*, the rocker *N*, the lever *R*, the base *O*, and the pivot *P*, arranged substantially as described, for the purpose designed.

Second, the combination and arrangement of the frame *A A*, the base *B*, the pillow blocks *C C*, the shaft *D*, the wheels *E E*, the slotted segment *F F*, the eccentric levers *I I*, the rods *K K K K*, the shafts *L L*, the rods *M M*, the rocker *N*, the base *O*, the pivot *P*, the lever *R*, and the balance wheel *S*, arranged substantially as described and for the purpose designed.

**69,822.**—EDWARD F. LIGHT, Worcester, Mass.—*Journal Box*.—October 15, 1867.—The oil hole is in a side projection of the lower box. The boxes are chambered at midlength, and the chamber has extensions to recesses near the end of the lower box. The central recess contains fibrous material to conduct the oil gradually to the shaft.

*Claim.*—The combination of the projection *D*, oil hole *g*, and grooves *d d* and *e*, and inclined ways *f f* and chamber *c* with the bottom part *A* of the journal box, for the purposes stated.

**69,823.**—HENRY LOVIE, Philadelphia, Pa., and ALBERT LOVIE, Prussia.—*Curtain Fixture*.—October 15, 1867.—The roller is vertically adjusted by a nut and screw on its supporting rod.

*Claim.*—The sliding screw rod *B*, in combination with the pin or stud *C* and the roller *D*, either fixed or revolving, substantially as shown and described.

**69,824.**—DAVID T. LYON, West Meriden, Conn.—*Butter Dish*.—October 15, 1867.—The hemispherical cover is supported on two arbors in such manner that



it can be turned down beneath the butter plate, and is concealed from sight in the hemispherical disk.

*Claim.*—The bearings of a revolving dish cover, constructed in the manner described and so as to be attached or detached, as specified; that is to say, the slotted cylinder *a* upon each side of the dish, combined with a bearing fixed to the cover, either with or without the tumbler *f*.

**69,825.**—GILBERT MACKINNON, Milbury, Mass., assignor to himself and HOSEA CRANE, same place.—*Expansion Drill.*—October 15, 1867.—A wedge block at the end of the drill enters between the two cutters and forces them out radially by its impingement against the bottom of the drill hole.

*Claim.*—First, the arrangement of the cutters *E* in the recess *e* of the holder *A*, and held in position between the holders and plate *B* by means of the set screws, as herein shown and described.

Second, the arrangement of the holder *A*, plate *B*, screw *D*, wedge *C*, and cutters *E*, substantially as described, for the purpose specified.

**69,826.**—SAMUEL MARDEN, Newton, Mass., assignor to himself and CHARLES PORTER, Cambridge, Mass.—*Implement for Straining Bands About Boxes.*—October 15, 1867.—The band is held in the pinch of the compound cam lever, and strained around the box while being nailed.

*Claim.*—An implement for hooping boxes in which the lever *A* and bar *B* are combined with the yoke *c*, substantially in the manner and for the purposes herein shown and described.

**69,827.**—EDWIN MEEKER, Bridgeport, Conn.—*Manufacture of Carriage Clips.*—October 15, 1867.—The blanks are subjected to the action of a series of dies by which they are swaged to shape.

*Claim.*—Dies *C* and *D*, having recesses *d* and *e*, and projecting punches *f*, substantially as and for the purpose herein shown and described.

**69,828.**—E. W. MILLS, Syracuse, N. Y., assignor to THE EMPIRE WINDMILL MANUFACTURING COMPANY, same place.—*Wind Wheel.*—October 15, 1867.—The arms have sliding weights which act by the centrifugal force imparted to them to alter the inclination of the wings and limit the speed.

*Claim.*—First, the sliding weights *d d* upon the rods *c*, arranged to operate upon the wind wheels *B*, through the medium of the bell crank *b b* and sliding collar *a*, substantially as herein shown and described.

Second, the weighted lever *L*, in combination with the rod *o*, the connecting chain *s*, collar *a*, bell cranks *b*, rods *c*, sliding weights *d*, and wind wheels *B*, substantially as described for the purpose specified.

Third, the bell cranks *b b*, the rods *g h* and *f*, the ball connection *n*, and the rod *o* and *p*, arranged and operating substantially as and for the purpose specified.

**69,829.**—HENRY L. MILLS, St. Paul, Minn.—*Artificial Leg.*—October 15, 1867.—The leather stump socket is formed to the stump when wet. It is held in an iron frame and attached to the person by straps. The iron frame is secured to the socket by straps and a spring catch. This frame is pivoted to the foot piece, and has an india-rubber spring at the heel, tending to bring the foot to a horizontal position.

*Claim.*—First, the adjustable and movable leather socket *C*, constructed, applied, and operating substantially as and for the purposes herein described.

Second, the combination of the iron frame *g g*, secured by rivets to the ankle piece *B*<sup>1</sup>, the bands *h h*<sup>1</sup>, the straps *k*<sup>1</sup> *k*<sup>1</sup>, and the socket *C*, all constructed, arranged, and operating substantially as and for the purposes set forth.

Third, the spring bar *n*, pivoted to the band *h*, in combination with the socket *C*, arranged and operating substantially as and for the purpose specified.

Fourth, the plates *d d*<sup>1</sup> on the upper and lower sides of the heel of the foot *A*, secured by the rivets *e e*, substantially as and for the purposes described.

Fifth, the peg *B* and ankle piece *B*<sup>1</sup>, pivoted to the plate *b*, and fitted in the mortise *a*, in combination with the frame *g g* and the foot *A*, constructed, arranged, and operating substantially as and for the purposes herein set forth.

**69,830.**—G. W. MITCHELL, New York, N. Y.—*Baking Pan.*—October 15, 1867.—The sheet-metal pans are set in cavities of a cast-iron base piece, which is vertically perforated for the passage of heated air.

*Claim.*—First, the combination roll, cake and bread baker, consisting of a heater and roll or cake pan, substantially as and for the purpose as described.

Second, the heater *B*, having apertures *a*, in combination with the depressions *D*, and pans *C*, substantially as described for the purpose specified.

Third, in combination with the heaters *B* and pans *C*, the legs *F*, as herein described, for the purpose specified.

**69,831.**—LAWRENCE MOONEY, Baltimore, Md.—*Kneeling Case for Churches.*—October 15, 1867.—The case has compartments for reception of books, &c., and umbrella racks with gutters and reservoirs to receive the drip.

*Claim.*—The combination of the case *c*, with an umbrella rack attached, with a gutter beneath, substantially as and for the purposes set forth.

**69,832.**—GARRET J. OLENDORF, Middlefield, N. Y., assignor to himself and JOHN WOOD.—*Stump Extractor.*—October 15, 1867.—The beam is oscillated by the alternate forward and backward rotation of the windlass, and a fresh hold taken on the lifting chain by hooks suspended from points near the mid-length of the same.

*Claim.*—First, lever beam *C*, supported in the centre by crotched pieces or frame, operating as described for the purpose specified.

Second, swivel, reel, or straight hitch-up hooks, or swivel and hook, combined with and operated by lever beam *C*, as described and set forth, for the purpose specified.

Third, ropes *R R*, hitched to either the stump or frame, going over pulleys in the beam to the axle or windlass by which the machine is operated, when used as described and set forth, for the purpose specified.

**69,833.**—O. PADDOCK, Watertown, N. Y.—*Ice Cream Freezer.*—October 15, 1867.—Explained by the claims and illustration.

*Claim.*—First, in an ice-cream freezer, in which the cream vessel is arranged to rotate upon its axis, as described, the combination with the cream vessel of a stationary cover which constitutes the bearing in which the upper portion of said vessel is supported and moves during its rotary movement, substantially as shown and set forth.

Second, the combination in an ice-cream freezer, as described, with the cream vessel and spindle for rotating the same, of the cover for said cream vessel and cross-bar, to which it is attached, under the arrangement substantially as herein shown and specified.

Third, the combination with the stationary cream-holder cover, and the stop or catch which it carries, of the frame *F*, mounted upon the spindle and within the rotary cream holder, substantially in the manner and for the purposes set forth.

Fourth, the combination of the cross-bar and the bolts or latches pivoted to it as described, with the catches mounted on the ice tub, and the slots formed in the said tub, under the arrangement and for operation substantially as set forth.

Fifth, the combination with the cream vessel or holder, and catches or hooks upon its bottom, of the slotted centre bearing upon which the said vessel is supported and pivoted, substantially as and for the purposes described.

Sixth, the method herein indicated of facilitating the removal of the frozen or solidified cream from the vessel in which it is contained by forming in the bottom of said vessel one or more vents or openings for the admittance of air to the interior of said vessel while the cream is passing out from the same, the said vents being closed by screw plugs or other suitable means, as set forth.

**69,834.**—L. E. PALMER, Le Ray, Pa.—*Plow Wheel.*—October 15, 1867.—A wheel runs in the furrow at the heel of the plow, between the landside and moldboard.

*Claim.*—The construction and arrangement of the



wheel A, shaft B, and braces D D D, and irons E E, in connection with the wheel C, which supports the front of the beam, as shown and described.

**69,835.**—JOHN PARK, Joliet, Ill.—*Washing Machine*.—October 15, 1867; antedated October 3, 1867.—A radially corrugated and perforated plate is supported over the bottom of the tub, and the radial frusto-conical rollers rotated thereon. The roller hub is held down by a spiral spring.

*Claim.*—The conical perforated bottom, in combination with the coiled spring *h* and rollers *d*, when attached to a tub, and arranged and operating in the manner described.

**69,836.**—THOMAS H. PARKER and DANIEL KELLISON, Parkersburg, Ill.—*Corn Planter*.—October 15, 1867.—The plows are detachable, and may be used either before or behind the roller.

*Claim.*—First, the combination with the shovel *G g'*, of the arm *H*, bolts *a*, and chain *I*, whereby said shovel is made transferable, substantially as and for the purpose set forth.

Second, the combination of the frame *A A<sup>1</sup> A<sup>2</sup> A<sup>3</sup>*, hopper *C*, and its appurtenances, rollers *K K*, hooks *J J'*, lever *D*, conducting tubes *F*, and shovels *G*, with their accessories *G g H a I*, all arranged and operating substantially as herein described and represented.

**69,837.**—MOSES POND, Boston, Mass.—*Stove*.—October 15, 1867.—The screw rods have blocks of rubber in place of washers beneath the nuts to allow expansion of the plates by heat, without stretching the bolts.

*Claim.*—The combination and arrangement of one or more blocks of india-rubber, or its equivalent, with the plates and the confining bolt or bolts of a stove, the whole being substantially as and for the purpose above specified.

**69,838.**—K. H. C. PRESTON, Manlius, N. Y.—*Harvester*.—October 15, 1867.—The grain falls on the frame and is discharged by its backward semi-revolution and rotation.

*Claim.*—The shaft *D*, having bearings *C*, at or near the rear of the platform *A*, its arms *b*, provided with eyes *a*, supporting the shaft *C*, having at one end the crank *E*, and provided with the teeth *d* and *e*, all arranged and operating as described for the purpose specified.

**69,839.**—GEORGE H. REYNOLDS, Mystic Bridge, Conn.—*Steam Engine*.—October 15, 1867.—The equilibrium valve and throttle valve are connected so as to be co-operative with each other to reduce the danger from erratic action and the labor of attendance. The air pump and condenser are placed in an elevated position to ease the air pump from the weight and inertia of any large amount of water beyond the delivery valve. The valve that opens and closes the communication between the exhaust passage and the vent pipe transforms the engine, if required, from a condensing to a non-condensing engine. This foot-valve is mounted on the seat that is connected with the bonnet, with which it is capable of being raised or lowered to give access to the various parts. The gridiron valves have corresponding duplicate openings matching their seats, and are operated by a movement after the stroke of the main slide, by which the admission of steam to the cylinder may be cut off with a slight sliding movement without disturbing the main parts of the engine.

*Claim.*—First, connecting the equilibrium valve *t<sup>3</sup>* and the throttle valve *t<sup>4</sup>*, so that both shall be operated together, substantially in the manner and for the purpose herein set forth.

Second, the within described arrangement of the condenser *L*, air pump *G*, and discharge pipes *V'*, relatively to the cylinder *A*.

Third, the relief valve *U*, arranged as represented, and adapted to transform the engine from a complete condensing to a complete non-condensing engine, and the reverse, substantially in the manner and for the purpose herein specified.

Fourth, arranging the foot valve *I* on the seat which is connected with the bonnet *J*, and adapted to be raised and lowered therewith, substantially as and for the purposes herein specified.

Fifth, operating the gridiron valves *N*, on the back of the main slide *M*, moving across by a movement later than the movement of the main slide, substantially as and for the purposes herein specified.

Sixth, the link *Q*, arranged to act obliquely to the eccentric rod *r* by the same eccentric, so as to operate the gridiron valves *N*, or their equivalents, by means of one of the main eccentrics *R*, substantially as and for the purpose herein specified.

**69,840.**—STEPHEN M. RICHARDS, Chicago, Ill.—*Sash Fastener*.—October 15, 1867; antedated October 4, 1867.—The heavy cross bar of the sash has spring bolts which pass into the frame, and are retracted by knobs projecting from the sash.

*Claim.*—The combination of the sliding catches *B B*, knobs *C C*, and springs *S S*, with the exterior metallic sheath or enclosure *A*, substantially as and for the purpose described.

**69,841.**—CHARLES H. ROBERTS, Troy, N. Y.—*Handle for Stove Doors*.—October 15, 1867.—Explained by the claim and illustration.

*Claim.*—The wooden knob *A*, constructed as described, slotted to fit over the metal knob *a*, cast on the stove door and held in position by means of the ring *B*, substantially as and for the purpose specified.

**69,842.**—ELEAZER ROOT, Terre Haute, Ind.—*TerraspHERE*.—October 15, 1867.—Improvement on his patent, December 18, 1866. The north end of the axial shaft is connected by ball and socket joint with its supporting arm. The arm is attached to an arbor, so geared to the shaft on which the earth revolves that the arm shall remain vertical during the revolution in the plane of the elliptic. The south pole of the axis turns in one end of an index finger, which turns with the arm supporting the other end.

*Claim.*—First, the arms *E*, sustaining the north end of the axis of the earth *A*, combined with the axis *c* and the gear connection with the axis *B*, so as to preserve its vertical position throughout the revolution of the earth in her orbit, substantially as described.

Second, hanging the index *g* at the south pole of the earth in a tubular bearing, substantially as described.

**69,843.**—ELI W. RUSSELL, Ashley, Mo., assignor to SAMUEL S. RUSSELL, same place.—*Churn*.—October 15, 1867.—The dasher is connected by a rectangularly-bent rod to an upper or under crank at will. The two crank shafts are connected by a belt which passes over pulleys of different diameters to cause various speed. The dasher rod slides in a box attached to the upper bar of the frame.

*Claim.*—The combination of the shaft *a*, having the pulley *F*, fly wheel *G*, and crank *e'* secured thereto, with the shaft *b*, having the pulley *E* and crank *e*, when arranged so as to have the pitman *h* and crank *d* applied to either at will, substantially as and for the purposes herein described.

**69,844.**—WILLIAMS RUTHERFORD, Athens, Ga.—*Compound Protractor*.—October 15, 1867.—The base bar has a rectangular shoulder taking over the edge of the drawing board; the axially-pivoted, graduated rule has a central, longitudinal slot, the adjustable foot of the vernier sliding therein.

*Claim.*—First, the solid base *B*, projecting at right angles to the plane of the graduated semicircle, so as to slide along the edge of the drawing board, considered as a meridian line, in combination therewith and with the graduated rule, constructed as herein described.

Second, the fixed vernier *b* and the sliding vernier *c*, in combination with the scale rule *C* and the protractor *A*, arranged and applied as and for the purposes herein specified.

**69,845.**—SILAS SCHOFIELD, Plainville, Mass.—*Tatting Shuttle*.—October 15, 1867.—A holder is attached to the shuttle, and a key winds the thread on the pivoted spool.

*Claim.*—First, a tatting shuttle, provided with a detachable handle or holder *B*, substantially as and for the purpose specified.

Second, a tatting shuttle, provided with mechanical means for winding the thread upon it, substantially as herein shown and described.



Third, in combination with the scuttle A, the holder B, crank C, and the crank bolt *i*, the whole arranged substantially as and for the purpose specified.

**69,846.**—J. SHAW, Bridgeport, Conn.—*Composition for Ink.*—October 15, 1867.—Composed of soft water, 5 galls.; extract of logwood, 1 pound; bicarbonate of potash, 1 oz.; bichromate of potash, 1 oz.; cyanide of potassium, 40 grs.; prussiate of potash, 80 grs.

*Claim.*—An ink composed of the ingredients herein above named, and mixed together in the manner and in or about the several proportions, substantially as specified.

**69,847.**—J. SHAW, Bridgeport, Conn.—*Ventilating Attachment for Railroad Cars.*—October 15, 1867.—The chambers beneath the cars have deflector plates as regulators, and flues that ascend the sides and open into and ventilate the car.

*Claim.*—The ventilator, constructed as described, consisting of the box B, having the pivoted lids D in the ends C, opening inward against the ends of the inclined partition plates H, the sides F, provided with the funnel-shaped or tubular openings E, in which the pivoted, inward-projecting partitions G work, all arranged and operated as herein shown and described, for the purpose specified.

**69,848.**—B. A. SHEARER, Crown Point Center, N. Y.—*Seeding Machine.*—October 15, 1867.—The adjustable, grooved roller is regulated by the depth of the grooves in accordance to the amount of seed required, which it discharges out of the cylinder as it rotates. The harrows are adjusted by the lever and its connecting rods.

*Claim.*—The roller G, provided with the grooves *d* and adjustable bars *e*, in combination with the seed hopper K and chute L, all arranged to operate substantially in the manner and for the purpose set forth.

Also, the harrow or covering teeth *h*, attached to the bars M, which are fitted on the rod N, in combination with the transverse bar N', arranged and connected to the lever P, to operate in the manner substantially as and for the purpose specified.

**69,849.**—J. L. SHEPPARD, Charleston, S. C.—*Cotton Bale Tie.*—October 15, 1867.—The ends of the band are passed through the loops of the plate, and the bale being released the band is held by frictional pressure.

*Claim.*—A tie or lock for metal bale hoops, composed of a metal plate perforated as shown at *a*, provided with loop *b*, slots *a'* *a'*, and bent portion of the plate C, to admit of the attachment of the ends of the hoop, as shown, and the turning up or down of the tie or lock while one end of the hoop is passed through its loop *b*, and drawing up or down of the tie or lock, parallel with the side of the bale, under the expansion of the same, when relieved of the pressure, substantially as set forth.

**69,850.**—GEORGE SHERWOOD, Chicago, Ill.—*Folding Seat.*—October 15, 1867.—The seat folds back out of the way, and the lugs are adjusted in the slots to arrest its progress before striking the back.

*Claim.*—The combination and arrangement of the lugs *c c'*, slots *d d'*, axle *b*, hub or cup *e*, and screw or nut *i* with the standard *a* and arm D, substantially as and for the purposes specified.

**69,851.**—W. J. SHIPMAN, Portsmouth, Ohio.—*Toy Pistol.*—October 15, 1867.—The ball slips on the solid rod of the pistol, being projected by the elastic cord attached thereto.

*Claim.*—A toy pistol, constructed and arranged to operate in connection with a ball, substantially as described, for the purpose specified.

**69,852.**—JACOB R. SMITH, Keyport, N. J.—*Mineral Paint.*—October 15, 1867.—Composed of ground shale, 12; carbonate of lead 5; oxide of iron, 4; oxide of lead, 2; ground slate, 2; dissolved india-rubber, 1 part; ground in oil.

*Claim.*—A paint, composed of the ingredients herein named, in the proportions and in the manner substantially as described.

**69,853.**—JARED W. SMITH, New Haven, Conn.—*Machine for Cutting Tobacco.*—October 15, 1867;

antedated October 3, 1867.—The circular knife blades are hung to a frame that swings around in a circular plane. The knives produce a draw cut upon the tobacco as it is fed to the machine. The scrapers clean and the friction wheels keep the knives in order.

*Claim.*—First, the beam or frame F, arranged to revolve, and provided with one or more revolving circular knives G, substantially as described, for the purpose specified.

Second, the scraper H, in combination with the revolving circular knives G, substantially as and for the purpose described.

Third, the sharpening rollers J, in combination with the knives G, substantially as and for the purpose specified.

**69,854.**—WM. SMITH, Pittsburgh, Pa.—*Machine for Molding Pipe.*—October 15, 1867.—The flask is clamped in position in the frame and the packer being at the lower end of the same, the sand is thrown in above it. The packer is then rotated and gradually raised so as to leave a smooth mold inside the flask.

*Claim.*—First, a revolving packer *g'*, tapering at or toward its upper end, and provided on the face or faces of such taper with grooves *i* or projecting flukes in lieu thereof, constructed and operated substantially as and for the purposes hereinbefore set forth.

Second, the revolving hollow shaft *g*, carrying a packer *g'* in combination with the guiding shaft *b* and flask B, arranged and operating substantially as and for the purposes above set forth.

Third, the drums *f*, ropes *h'*, and cross-bars *h*, in combination with the collar *o'*, for the purpose of elevating the hollow shaft *g* while the mold is being formed, substantially as above set forth.

Fourth, the gear wheel *c* bored in the line of its axis for a seat for the guiding frame shaft *b* and keyed thereto in combination with drums *f* and the apparatus *h* and *h'* to engage the collar *o'* for the purpose of imparting to the shaft *b* revolving and vertical motions, substantially as set forth.

Fifth, the vertically moving slide *n* with its converging grooves *n'* in combination with the laterally moving clamps *m* having lugs *m'* arranged and operated substantially as described.

**69,855.**—J. H. SPELMAN, Bazetta, Ohio.—*Churn.*—October 15, 1867.—The arms have beaters obliquely attached at a variable distance from the shaft and rotating in variable circles.

*Claim.*—The special construction of the dasher C with slanting arms I and beaters G F, when arranged so as to describe unequal circles, one within the other, in combination with the case A, in the manner as and for the purpose set forth.

**69,856.**—GEORGE W. SARR, Clarksburg, West Virginia.—*Automatic Railroad Switch.*—October 15, 1867.—By the described arrangement the passing train automatically adjusts the switch so as to make continuous the line on which it is travelling.

*Claim.*—First, the lever G, in combination with the slotted arm *i* and spring *v* when arranged to operate in connection with the rail A, the connecting rods *j* and *l*, and spring *k*, as described and for the purpose set forth.

Second, the lever F, in combination with the spring in the case *d*, the rest *f* and rail A, when arranged to operate as described, and for the purpose set forth.

Third, the trippers *t t'* in combination with the bars *n* and *o*, when arranged to operate the lever F for releasing the rail A, as described and for the purpose set forth.

Fourth, an automatic railroad switch, with the devices for locking and releasing the rails A A' when arranged to operate as described and for the purposes set forth.

**69,857.**—B. F. STEWART, Freeport, Ohio.—*Horse Hay Fork.*—October 15, 1867.—The curved tines are pivoted to the handle. A link is pivoted to one of the tines and is connected to the other by a wrist working in a slot and securing the tines in either required position.

*Claim.*—The curved prongs B B pivoted at one end to handle A and connected by the link *a* pivoted at one end to one prong, and working at the other end



in the other prong, constructed and operating substantially as and for the purpose herein described.

**69,858.**—EDWIN STILES, Cleveland, Ohio.—*Farm Fence*.—October 15, 1867.—The cleats are nailed on each side of the boards of the fence in pairs and are slotted at the bottom for the reception of the sills, to which are attached the braces that support the fence.

*Claim.*—The special construction and arrangement of a fence as herein specified.

**69,859.**—SEPTIMUS C. STOKES, Manchester, N. H.—*Faucet*.—October 15, 1867.—By the combined action of the gib and screw on the delivery plug it is set up to its seat as it wears, to maintain a tight joint.

*Claim.*—The above specified combination as well as the arrangement of the gib D and the screws E with the plug and body of the faucet.

Also, its head, constructed as described and applied to the body and plug of the faucet in manner as explained.

**69,860.**—JOHN B. STONER, Lacon, Ill.—*Flood Gate*.—October 15, 1867; antedated October 1, 1867.—The gate is made with closed joints to within a short distance of the ordinary water mark. The pieces forming the body of the gate alternately extend into the water which flows through the alternate gaps. The gate is swung on staple hinges attached to the face of the upper beam.

*Claim.*—A floodgate with escapes, reaching below, and with solid front above the escapes, and swung upon the cross-beam by means of staple hinges placed in the edge or slide of the beam *a*, facing the source of the stream, the gate resting at an inclination upon the bearings at *f f'*.

**69,861.**—JOHN B. STONER, Lacon, Ill.—*Portable Flood Fence*.—October 15, 1867; antedated September 27, 1867.—The supporting posts are planted in the ground and have journal boxes secured on top, to which the swinging fence is attached. The fence adapts itself to the pressure of water by turning on its bearings.

*Claim.*—The post *a*, box *b*, rail *c*, blocks *d d'*, and pins *e e'*, arranged, combined, constructed and operating substantially as described.

**69,862.**—LEONARD STUDY, Plum Hollow, Iowa.—*Corn Planter*.—October 15, 1867.—The seed droppers are attached to the axle of the transporting wheels and thereby measure the distance between the hills of corn; the vents in the cylindrical hoppers are operated by cam valves automatically dependent on the motion of the axle.

*Claim.*—First, the application directly to the axle B' of seed droppers C, which are provided with valves *i*, in combination with cams *h* upon the seed tubes *g*, and openers *f* upon the main frame, substantially as and for the purposes described.

Second, the chambered and radially grooved dropping devices C C provided with valves *e e* and adapted for the purpose, substantially as described.

Third, the combination of a seed slide *d*, which is moved by axle B<sup>1</sup>, through the medium of spring B<sup>3</sup>, the seed hoppers E, the seed tubes *g* and the rotating droppers C, constructed to operate substantially as described.

Fourth, the double-acting clutches *b* applied on the axle B' in such manner as to lock this axle to its frame, when the driving wheels B, one or both, are free to turn around said axle, substantially in the manner and for the purposes described.

**69,863.**—ORRIN W. SWIFT, New Haven, Conn.—*Device for Capping Screws*.—October 15, 1867.—The edge of the cap is secured in under the head of the screw, and the metal displaced in making the nick in the cap is forced into the nick of the screw-head.

*Claim.*—The tubular die D, with the rod E fitted within it, and provided with the blade *d*, in combination with the bolster A, for receiving the screw B and the set screw C, or its equivalent, for holding screw B in position while being capped, all constructed and arranged to operate substantially in the manner as and for the purpose specified.

**69,864.**—JAMES THOMPSON, Vevay, Ind.—*Wash Board*.—October 15, 1867.—The corrugated wash-

board is made concave on its face so that it may offer the best relative position to the action of the operator.

*Claim.*—A wash-board A B, whose individual corrugations *b*, and the whole or greater portion of the entire series B collectively, are curved concavities, as and for the purpose specified.

**69,865.**—ZACHARIAS TOBIAS, Covington, Ohio.—*Horse Power*.—October 15, 1867.—The horse-power is secured to the wagon bed to save the labor of loading and unloading. The central shaft descends to the bevel gears on the diagonal frame below. The diagonal frame with its transverse bars chocks the wheels, and is pinned to the ground. The windlass with its binding cords rigidly connects the frame and wagon.

*Claim.*—First, the combination of the frame or frames N S, line shaft B, and center shaft L with each other, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the ropes or chains W and shaft or windlass Y with the frame N, and its attachments, and with the frame D, substantially as herein shown and described and for the purpose set forth.

Third, permanently attaching the power to the bolsters or axles of a wagon, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the timber T and braces A' with the wheels A and frame D of the machine, substantially as herein shown and described, and for the purpose set forth.

**69,866.**—ISAAC N. TOPLIFF, Adrian, Mich.—*Clip Circle*.—October 15, 1867; antedated September 28, 1867.—The solid metallic clip circle is clamped onto the stock, into which a spur from its center penetrates. Nuts secure the screw-bolts below the axle.

*Claim.*—The construction of a clip circle for carriages, &c., in the form and manner described, with the spur B, for the purpose substantially as set forth.

Also, as new, the spur B.

**69,867.**—JAMES VANDEGRIFT, Princeton, Ill.—*Plow*.—October 15, 1867.—The beam is adjustably secured with bolts and washers in its connections, to regulate the depth and width of the furrow.

*Claim.*—The combination with the beam *d* of the flange *g'* or its described equivalent, the brace *e*, arm *j*, adjustable collar *k* and screw *m*, constructed and arranged in the manner herein shown and described, and employed to adapt the plow for either light or heavy draft, in the manner set forth.

**69,868.**—R. M. VAN SICKLER, New York, N. Y.—*Adjustable Roller Frame for Elevator Platforms*.—October 15, 1867.—Improvement on his patent February 12, 1867.—The rollers have their bearings in supplementary frames and are intended to facilitate the handling of heavy weights on elevator platforms and over warehouse floors.

*Claim.*—The sides *a a*, bearing the roller C, when such sides are connected together by means of the cross-bars *a<sup>2</sup>*, having the downward projections B for receiving the frame upon the platform of the elevator, to prevent slipping and longitudinal movement, as herein shown and described.

**69,869.**—ETHAN P. VAUX, Washington, D. C.—*Pipe for the Transmission of Fluids*.—October 15, 1867.—The inner pipe is centrally confined within a hermetically sealed tube to maintain an equalized temperature in the passage of fluids.

*Claim.*—First, a pipe constructed and arranged for the transmission of fluids, having a hermetically sealed air chamber surrounding it, substantially as described.

Second, in combination therewith, the intermediate braces, whether consisting of disks or other radial supports, or supports of horizontal pipes, substantially as described.

Third, a two-fold pipe, the interior being a conduit for fluids, and the outer forming a hermetically sealed air chamber, when united at its curves or angles, substantially as described.

**69,870.**—CHARLES W. WAILEY, New Orleans, La.—*Cotton Bale Tie*.—October 15, 1867.—The tie has a curved lip that is thrown out from the plane of its



surface to admit of the easy insertion of the loop between the lip and curved ridge on the end of the tie. One end of the loop passes round the curved ridge and is riveted to form a hinge connection.

*Claim.*—First, constructing a cotton bale tie with a projecting lip C and roller G, substantially as described.

Second, constructing a cotton bale tie with a projecting lip C and curved ridge D, substantially as described.

Third, constructing a cotton bale tie with a projecting lip C, roller G, and curved ridge D, when the same are arranged substantially as described and for the purpose set forth.

Fourth, securing a cotton bale tie having a curved projecting lip to the hook, by means of the roller G, loop H, and rivet I, when the same are so combined as to form a hinge joint, substantially as described.

**69,871.**—JOSHUA WALKER, Kansas City, Mo.—*Elevator.*—October 15, 1867.—The hoisting platform is raised on its pivoted supporting braces by the traction of the windlass which draws forward the foot of its rear brace.

*Claim.*—First, in combination with the car tracks, laid at different heights, a movable section C, arranged and applied in such a manner as to admit of being raised and lowered from one track to the other, and carry the car from one track to the other, substantially as set forth.

Second, the hinged rails or ways I I, arranged with the arms J J, windlass M, to operate in connection with the adjustable section C, substantially as and for the purpose specified.

Third, the arrangement as shown of the arms D D' and E, with the windlass G, for the purpose of raising and lowering the section C, for the purpose set forth.

**69,872.**—GEORGE WALTERS and THOMAS SHAFER, Phoenixville, Pa.—*Construction of Fagots for Beams.*—October 15, 1867.—The bars are adjusted and secured by riveted bolts in a form approximating to the shape of the future beam. The fagot is then placed in a furnace, and when at a welding heat is rolled into the required form.

*Claim.*—A pile or fagot for wrought-iron beams, girders, &c., composed of one or more bars for the web, and any desired number of bars for the flange or flanges, when the said bars are arranged and permanently secured together by bolts or rivets, as and for the purpose herein set forth.

**69,873.**—JAMES L. WARNER, New York, N. Y.—*Toy Engine.*—October 15, 1867.—The glass boiler is suspended by swiveled rods over the lamp and is rotated by the discharge of steam from the curved tubular arm as in the *Æolipile* of Hero.

*Claim.*—The combination of the boiler A, cord b, and swivel joint c with the lamp B, substantially as and for the purpose herein shown and described.

**69,874.**—FRANKLIN WATSON, Harrison, Ill.—*Plow.*—October 15, 1867.—The moldboard and share are attached to and supported by the braces, hooks, and springs, so that they are reversible to turn the furrow on either hand.

*Claim.*—First, the moldboard F, of shape described, and share M, when combined as set forth.

Second, the springs h and i, when combined and operated as described.

Third, the plow foot D, moldboard F, share M, support G, standard E, and springs h and i, when combined and arranged substantially as described.

**69,875.**—T. WATSON and C. PERRY, Brooklyn, N. Y.—*Extension Ladder.*—October 15, 1867.—Improvement on their patent, October 30, 1866. The segmental bed frame serves as a connection in coupling the wagon, and braces the ladder when raised. The windlass, having its bearings at the foot of the frame, extends the sections of the ladder. The basket attached by a rope to the pulley at the top of the ladder forms a fire escape.

*Claim.*—First, the manner of connecting the two trucks together, and the arrangement of the slides thereon, substantially as and for the purpose described.

Second, arrangement of the bar j for the slides to

rest upon, substantially as and for the purposes described.

Third, the arrangement of the windlass for elevating the slides, between the base of said slides and the axle of the rear truck, substantially as and for the purpose described.

Fourth, the employment in an extension ladder of guys, in combination with a windlass, substantially as and for the purpose described.

Fifth, the hub of the rear truck, constructed in the manner and for the purpose substantially as described.

Sixth, the arrangement upon the top of the ladder of a skeleton adjustable platform, constructed substantially as described.

**69,876.**—LEWIS WEAVER, Canton, Ohio.—*Corn Dropper.*—October 15, 1867.—The spring valve attached to the hopper regulates the discharge of the corn, and the separating flanges disperse the seed so as to deliver them in their proper position.

*Claim.*—First, the piece f, having flanges e e thereon, attached to the box E, in the manner and for the purpose specified.

Second, the spring d, having the lip p thereon, and attached to the hopper B, in the manner and for the purpose specified.

Third, the valve K, having the hole X therein, and the lower parts a and b arranged in the manner and for the purpose specified.

**69,877.**—WILLIAM WELCH, Bridgeport, Conn., assignor to himself and MATHEW DIAMOND.—*Indicator for Punching Machine.*—October 15, 1867.—Explained by the claims and illustration.

*Claim.*—First, providing an indicator which registers the strokes of devices making regular reciprocating movements, and of reciprocating gates, that are operated by eccentrically moving boxes B, or their equivalents, substantially as set forth.

Second, the slotted sliding rod F, when provided with pins b b and with a spring h, and when combined with the pawl i, ratchet wheel H, and hand e, and with the box B, substantially as and for the purpose set forth.

Third, the manner herein shown and described of throwing the indicating apparatus out of gear, by means of the eccentric pin j fitting through an eye on the rod i, substantially as herein shown and described.

Fourth, the arrangement of the pivoted plate L, having an eccentric slot and fitting around the pin n, and connected with the pawl m, for the purpose of indicating the revolution of the lower disk on the hand of the disk above, as set forth.

**69,878.**—JOHN WESTCOTT, Patchogue, N. Y.—*Animal Trap.*—October 15, 1867.—The trap being placed in the burrow, the mole in passing dislodges the dog and the spring jaws close on him.

*Claim.*—The mole trap, constructed as described, consisting of the iron forks A A, formed at right angles upon the cross-bars of the handles, the latter being pivoted together at a, and clamping between them the spring B, said forks held open by means of the notched dog C between the cross-bars, as herein set forth for the purpose specified.

**69,879.**—WILLIAM H. WHITEHEAD, Chicago, Ill.—*Grate for Cooking Stoves.*—October 15, 1867.—The rotating grate is adjusted in the stove to regulate the size of the furnace to the temperature.

*Claim.*—First, the changeable revolving grate E, in combination with the end plates G and H, and front grate P Q, for the purpose of changing the fire box from an open to a close grate, substantially as specified.

Second, the projection of lock c, attached to the end plate G, substantially as and for the purposes set forth.

Third, the back plate B B' and C, when constructed substantially as described, and so located that the upper portion C will incline toward the front, the middle portion B incline backward, and the lower B' remain vertical, so as to admit of a change in position of the grate E, substantially as specified.

Fourth, the combination and arrangement of the front grate P Q, back plate B B' C, and the end plates G and H, with an adjustable revolving bottom grate E, constructed and operating substantially as specified.



**69,880.**—WILLIAM WICKERSHAM, Boston, Mass.—*Electro-magnetic Engine.*—October 15, 1867.—The copper bars come in contact with a metallic plate at one end of the engine and pass nearly round the electro-magnets in their extension towards the other end, so that when an electric current passes along the metallic bar it imparts a magnetic polarity to the electro-magnet. A metallic plate at one end of the engine is in electric connection with all the metallic bars that pass nearly round the electro-magnets, and also connects with one pole of the battery. The soft iron electro-magnets are formed so that they can compose part of the rim of a fly-wheel, and they are attached to the periphery of a disk, through which a shaft passes, the remainder of the rim being composed of non-conducting material. The cut-offs rotate with the shaft, causing the open circuits to continue the same positionary relation to the electro-magnets while they rotate. The electric currents are thus opened or closed as required.

*Claim.*—First, so forming metallic conductors in electro-magnetic engines that in their extension from one end to the other of said engine, they shall pass nearly round one or more electro-magnets, and so arranging them that when an electric current passes through said conducting bars it shall produce magnetic polarity in the said electro-magnets, substantially as described.

Second, in combination with said metallic conductors the arrangement of the receptacle *b*, substantially as and for the purpose described.

Third, so forming the electro-magnet in an electro-magnetic engine that it may become a part of the rim of a fly-wheel, and so arranging it on the outer edge of a disk in connection with the shaft that when said rim revolves the shaft will revolve also, as described.

Fourth, the cut-off arranged and constructed as described, in combination with the said metallic conductors playing over the interrupted parts of said cut-off, as described.

Fifth, adjusting in electro-magnetic engines while they are in motion, the relation of the circuits to the magnets, substantially as described, and for this purpose the spiral slotted tube *k*, arranged and operated substantially as described.

Sixth, in combination with said metallic conductors and magnetic fly-wheel the arrangement of two or any desirable number of said fly-wheels on the same shaft, all operating together in the manner described.

Seventh, arranging the conducting bars in groups around the shaft and securing each group in its proper position, independently of the others, as described.

Eighth, having the spaces between the groups of conducting bars filled with blocks of the same form of said spaces, and having said blocks secured in their places by a metallic ring *K*, as described.

Ninth, making said metallic conductors in a thin, ribbon-like form, having one edge near the said electro-magnet and the other edge from said magnet, all substantially as described and for the purpose set forth.

**69,881.**—HOSEA WILLARD, Vergennes, Vt.—*Hay Raker and Loader.*—October 15, 1867.—The wing rakes extend on each side of the machine, and thereby clear a wide track. The rakes take up the hay as left by the mower, and endless carriers convey it to the load. The teeth of the elastic, endless elevator yield to obstacles in their course and accommodate themselves to the inequalities of the ground.

*Claim.*—First, the supplementary yielding pulleys *e e* attached to the axle *A*, and at such points that the rake teeth of the endless elevator may yield or conform to the inequalities of the surface over which they may pass, or to obstructions which may be in their path, substantially as and for the purpose specified.

Second, the oval wires or clearers *h* placed on the shaft *G* of the endless elevator, substantially as and for the purpose set forth.

Third, the springs *K* for connecting the oblique rake wings to the frame *C*, arranged as described for the purpose specified.

Fourth, the endless belts *P P*, applied to the rake wings, substantially in the manner as and for the purpose set forth.

**69,882.**—CHARLES WILLIAMS, Vineland, N. J., assignor by mesne assignments to himself.—*Oil Cup.*—October 15, 1867.—The perforated ball on the end of the elastic oil-discharging tube seeks the lower portion of the can in whatever position it may be placed.

*Claim.*—The elastic tube *C* in combination with the nozzle *B*, and of such length that the perforated ball *D* upon its lower end shall reach either the top, side, or bottom of the can *A*, as herein described for the purpose specified.

**69,883.**—NATHANIEL WILTON, Groton, N. H.—*Jaw for Lathe Dogs and Bench Vices.*—October 15, 1867.—The semi-cylindrical jaws fit into recesses in their corresponding jaws and have curved grooves formed in their ends for the reception of the guide pins, by which they are secured in place and restricted.

*Claim.*—The combination in a lathe dog of the semi-cylindrical self-adjusting pieces or jaws *D* with the jaws *A* and *B* and screws *C*, or their equivalents, substantially as herein shown and described and for the purpose set forth.

**69,884.**—J. WISNER, Aurora, N. Y., and T. ROSE, Cortlandville, N. Y.—*Broom Head.*—October 15, 1867.—The butts of the corn are thrust within the case and secured by a transverse bolt and thumb screw and pins driven in at the edges of the case. The top of the case has a wooden filling into which the handle is fastened.

*Claim.*—The combination of the screw bolt *g* with thumb screw upon each end, and the side or conical pins *d d* with the metal cap or case for holding the brush or corn, as above described and for the purpose set forth.

**69,885.**—J. and A. WOEBER, Davenport, Iowa.—*Carriage and Buggy Top Bow Irons.*—October 15, 1867.—The perforation near the end of the bow slips upon a stud on one plate of the socket, and the other plate is fastened against the former by a set screw, which enters the stud.

*Claim.*—First, providing sockets for receiving and fastening the ends of the bows of buggy and carriage tops, substantially in the manner and for the purpose as herein described.

Second, the construction and arrangement of flanges on the sockets, substantially in the manner and for the purpose as herein described.

Third, the hinges as constructed with plate *A*, having pivots *a a a a*, with holes in the pivots for screws, and plate *B* attached by screws, substantially in the manner and for the purposes as herein described.

Fourth, the sockets with flanges and the hinges with pivots, as constructed and arranged in combination with the bows and bow irons, substantially in the manner and for the purposes as herein described.

**69,886.**—L. E. WOODARD, Owasso, Michigan.—*Wagon Brake.*—October 15, 1867.—The brake bar is attached to a cross piece, which is moved by an eccentric journal in a block on the reach and operated by a connecting rod from the brake lever.

*Claim.*—First, the brake bar *B* connected by pins *b* working in the slots *c* in the ends of the cross-bar *a*, all constructed and arranged as described for the purpose specified.

Second, the slotted metallic slide piece *D* upon the wagon reach, connected at one end to the bar *B* and in which the friction roller *k* is pivoted, constructed as described and operated by means of the eccentric piece *E*, as herein set forth for the purpose specified.

**69,887.**—HENRY ZELLNER, Columbia, Tenn.—*Cotton Press and Feeder.*—October 15, 1867.—The ginned cotton is fed to the machine through a chute in which it is freed from dust. It is then forced into the press under the follower, which presses it to the bottom of the tube, where it is held down while the follower returns for a second tube full.

*Claim.*—First, the triangular chamber *B* situated between the chute *A* and the press, arranged as and for the purpose above described.

Second, the arrangement of the foraminated cover *B'* in connection with the chamber *B* and chute *A* in



a hay or cotton press, substantially as and for the purpose described.

Third, the combination of the shaft I, cords or chains H H' and toggle joint lever F with the pulleys l l working at the end of the fixed beam K, substantially as and for the purpose specified.

Fourth, the use of the pawls o o o, substantially as and for the purpose described.

Fifth, the arrangement of the chute A, chamber B, rollers C C', lever E, block G, tube D, and pawls o o o, substantially as and for the purpose set forth.

**69,888.**—GEORGE S. ACKER, Kalamazoo, Mich.—*Burglar Alarm*.—October 15, 1867.—The driving wheel, which is operated by a coiled spring, gears into a pinion that actuates an escapement wheel on the pinion arbor. The arbor of the pallet carries the hammer which strikes the bell as the pallet oscillates. The lever in the pallet shaft locks the pallet until liberated by the trip.

*Claim.*—First, connecting the spring alarm with the tripping wire W, by the arrangement and combination of the pallet lever H, with the toothed quadrant I J, pawl P, and tension spring S, substantially as and for the purpose specified.

Second, in combination with the spring alarm and tripping arrangement aforesaid, the geared levers L L, when the same are connected to the window panes and operated by the window sashes of a building, substantially in the manner and for the uses set forth.

**69,889.**—CHILLION B. ALLEN, St. Louis, Mo.—*Roofing Composition*.—October 15, 1867.—Composed of coal tar, plaster, molders' sand, and common clay.

*Claim.*—The within described composition, composed of the articles herein set forth and used for the purposes specified.

**69,890.**—HENRY ADLER, Yellow Springs, Ohio.—*Boiler*.—October 15, 1867.—The digester is placed in a boiler partially filled with water and has a central pipe standing vertically within it to receive the hot water and steam. Both digester and boiler have lids.

*Claim.*—First, the arrangement, substantially as described, of the hot water jacket A B K, steam chamber E e, digester G H I M, and stopper L, as and for the purpose specified.

Second, in combination with the elements of the preceding clause, the rotatable loops C c C' c', serving the double purpose of handles and catches.

**69,891.**—EMERY ANDREWS, Portland, Me.—*Manufacture of Matches*.—October 15, 1867.—The matches being ranged in the form of a card the non-igniting ends are slightly attached by glue.

*Claim.*—Uniting match splints in the form of a card, substantially in the manner and for the purpose specified.

**69,892.**—JOHN L. BARNES, Etna Green, Ind.—*Car Brake*.—October 15, 1867.—The roller, being partially rotated by the lever, winds up the cord, which, drawing the sliding frame, brings the friction wheels in contact. These operate through their connections the shaft on which the cord is wound to actuate the brakes.

*Claim.*—The swinging frame G, with its shafts E and K, wheels J J, gears H and I, used in combination with wheels M M upon the driving axle, and cords C, rods D D, and lever B, for operating the carriage brakes by means of the lever F, roller d and cord a, when arranged in the manner and used substantially as and for the purposes specified.

**69,893.**—W. R. BEANS, Brownsburg, Pa.—*Bridle*.—October 15, 1867.—The frontlet extending back from the headstall is held in position by a strap round the neck and holds the safety lines so that they press on the most susceptible part of the neck while the bit is drawn in the mouth.

*Claim.*—The headstalls constructed with extensions rearwardly from the forehead strap having loops b' at their rear ends for the retention of the safety reins in the desired position on the horse's neck, substantially as shown and described.

**69,894.**—A. C. BEARDSLEE, Brooklyn, N. Y.—*Apparatus for Proving Gas Pipes*.—October 15, 1867.

—The gas enters below the elastic diaphragm and raises the graduated rod attached thereto. The leakage of gas allows the rod to sink and shows a defect in the piping.

*Claim.*—First, the combination of the bell A, base piece B, with its passages F H, diaphragm C, spring borne graduated rod D, and check valve J, all for operation together substantially as and for the purpose herein set forth.

Second, the arrangement in connection with a diaphragm indicator, substantially of the character specified, of an ether box, essentially as and for the purpose or purposes herein set forth.

**69,895.**—JOSEPH BENN, Goat, England, and GEO. O. LUCKMAN, Manchester, England.—*Apparatus for Damping and Gunning Labels*.—October 15, 1867.—The adhesive solution saturates the sponge, and minute portions of the solution penetrate through the perforated plate, so that on sliding the label over the plate the gum is applied.

*Claim.*—The apparatus described consisting of a reservoir connected to a damping chamber provided with a perforated plate or any combination of similar parts answering the same purposes and for effecting the same objects.

**69,896.**—HARRY BITTER, Philadelphia, Pa.—*Combined Horse Tongs, Clamp, Winch, and Pick*.—October 15, 1867.—Improvement on the patent of P. H. Collins, April 30, 1867. The loose clamp is combined with an elastic facing ring, coupling wrenches and detaching pick.

*Claim.*—The combination of the facing ring D, wrenches d and e and pick f, with a hose clamp, substantially as described and for the purposes specified.

**69,897.**—AMOS BROADNAX, New York, N. Y.—*Apparatus for Rendering Lard and Tallow*.—October 15, 1867.—Explained by the claims and illustration.

*Claim.*—First, rendering fat with a dry fire heat, either in an open or a close tank, by inclosing said tank in a heating chamber, so made and arranged as to entirely surround the same, substantially as described.

Second, combining a dry rendering apparatus in a dry heating chamber, made of metal, and placing said dry metal heating chamber in a brick chamber over the fire or furnace, and so arranged as to leave a flue around the metal chamber, substantially as described.

Third, the use of the intervening plate S, either with or without the fire brick or clay facing between the furnace and the tank, by which the fire can be entirely excluded from the tank.

Fourth, arranging an open rendering tank in a heating chamber, made to entirely inclose it, and arranged to allow the gas and vapor to escape in the chimney under a furnace, substantially as described.

Fifth, in combination with a rendering tank, the use of a thermometer, arranged in a tube in said tank filled with mercury, substantially as described.

Sixth, the use of a ventilator, in combination with a rendering tank inclosed in a heating chamber, for the purpose of reducing the temperature in said chamber, substantially as described.

Seventh, making an intervening flue between the tank and the fire flue to aid in regulating the application of heat to the tank, substantially as described.

Eighth, connecting the steam and gas-discharge pipe of a rendering apparatus with a large separate chamber or pipe S', arranged in the melting furnace of the apparatus to allow the steam and gas to expand and heat in said chamber or pipe in the furnace after it leaves the discharge pipe and before its consumption.

**69,898.**—MYRON D. BROOKS, Albany, N. Y.—*Bed Clothes Holder*.—October 15, 1867.—The rolls engage the clothes on which they are tightened by the spiral springs.

*Claim.*—The combination of the rolls E E' with the arms A A and B B, and spiral springs C C, arranged on a bedstead for holding the cloths of the bed, substantially as described.

**69,899.**—CHARLES C. BURROWS, Mystic River, Conn.—*Row Lock for Boats*.—October 15, 1867.—A metallic plate is attached to the reversible cap, and turns freely with the sweep of the oar. The cap is



attached by a hinge to the gunwale plate. The thole is turned down out of the way, when not in use, and secured by a button when in use.

*Claim.*—First, the slotted plate A, Figs. 3 and 4, in combination with a reversible cap C, hinged thereto, and revolving thole permanently attached to the cap, substantially as set forth.

Second, in combination with the plate A, having a longitudinal slot A', the reversible cap and thole, and a button for securing the part rigidly when in use, arranged substantially as set forth.

**69,900.**—CHARLES HENRY COFFIN, San Francisco, Cal.—*Hat Ventilator.*—October 15, 1867.—One perforated plate is attached by its flanges to the hat, and the register plate moves upon it.

*Claim.*—As a new article of manufacture a hat ventilator, provided with a slide or valve to close the openings, and a flange of flexible metal teeth for fastening it to the hat.

**69,901.**—JULIUS DAVIS, McLean, N. Y.—*Fountain Brush.*—October 15, 1867; antedated October 8, 1867.—As the cylinder revolves in the holder the whitewash runs through its perforations and the envelope of cloth, and is spread by the brush.

*Claim.*—First, the revolving hollow cylinder G, having its entire curved sides pierced with orifices *e*, and covered with cloth *c*, to allow the paint or whitewash within it to escape gradually, and spread itself evenly over the surface, to be covered as the cylinder is rolled over it, substantially as and for the purpose described.

Second, the combination and arrangement of the revolving hollow cylinder G and brushes B, when the cylinder and brushes are constructed and used substantially as and for the purpose hereinbefore particularly described.

Third, the combination and arrangement of the revolving hollow cylinder G, brushes B and cup A, when the cylinder brushes and cup are constructed and used substantially as and for the purpose set forth and described.

Fourth, the combination and arrangement of the revolving hollow cylinder G, brushes B, cup A, frame support *b* C and C', socket D and handle E, when the whole are constructed and used substantially as and for the purpose described.

**69,902.**—W. C. DAVIS, Cincinnati, Ohio.—*Cooking Stove.*—October 15, 1867.—Instead of legs the stove has a chamber beneath, with sockets to receive the base flange of the stove proper, and doors by which the internal space is reached.

*Claim.*—The base or pedestal B, forming a completely inclosed closet or chamber, having one or more doors J, a floor E, and interlocking flanges D, and being adapted to take the place of the customary legs or feet of an ordinary cast cooking stove, as set forth.

**69,903.**—JOHN DONALDSON, Rockford, Ill.—*Grinding Mill.*—October 15, 1867.—The hopper bottom is hinged, and its edge is turned down into a groove of the hopper side; it is shaken by pins adjustable in radial slots of two rotating wheels at the ends of the hopper. The same pins operate the discharge lever.

*Claim.*—First, the arrangement of the slots *i i'* in wheel E, with the pins adjustable in said slots, and the feed levers *a* and *l*, and discharge lever *a'*, operating in connection with the feed and discharge valves and the hulling machinery, substantially as described and for the purpose set forth.

Second, the arrangement and construction of the feed valve P and groove R in hopper S, substantially as described.

**69,904.**—JOSIAH W. ELLS, Pittsburg, Pa.—*Coating Wrought Iron with Cast Steel.*—October 15, 1867.—A bloom of wrought iron is placed in a flask and is covered with a coating of cast steel, the compound being then wrought into the desired form.

*Claim.*—As a new and merchantable article of manufacture, slabs, sheets, plates, bars and rods of wrought iron having a uniform coating, face or surface of cast steel, applied as hereinbefore set forth, on any one or more or on all sides of the same and of any required degree of thickness.

**69,905.**—JOHN A. EWINS, South Boston, Mass.—*Knife Cleaner.*—October 15, 1867.—The frame is clamped by a set screw to a bench or table, and the cylinder is rotated by driving wheel and pinion; the guard holds a supply of polishing material, and the knife lies on a block which is pressed by a spring against the cylinder.

*Claim.*—The combination and arrangement of the polishing or cleaning cylinder and its operative mechanism with the self-adjusting presser and the guard, the whole being applied to a frame so as to operate as described.

**69,906.**—FREDERICK FISHER, Gloucester, Mass.—*Tuyere.*—October 15, 1867.—The chamber around the air-pipe is filled with water from a reservoir, the duplicate pipes constituting a circulating connection. The plug being removed the nozzle forms a cinder discharge.

*Claim.*—The water-tight vessel or reservoir I J, surrounding or partially enclosing the main air tube H and the tubes K K, in combination with the pipes F and G and the reservoir E, substantially as and for the purpose specified.

**69,907.**—J. FORCE and G. W. RENWICK, Elgin, Ill.—*Tenter Bar for Stretching Cloth.*—October 15, 1867.—The cloth is attached by hooks to bars, which are then drawn apart equally throughout their length by a succession of toggle levers actuated by a crank screw and rods, which connect the hinging joints of the toggles.

*Claim.*—The combination of bars H and H'', friction wheels *t* and *t''*, screw N, rod L, and levers *e e*, substantially as and for the purpose described.

**69,908.**—JOHN FOX, Baltimore, Md.—*Harvester.*—October 15, 1867.—The cam groove on the face of the driving wheel actuates a lever with a roller on its end and moves the cutter bar. One side of the cam groove is continuous, the other interrupted, and the motion of the cutter bar is avoided in backing.

*Claim.*—The broken or interrupted surface of the cam groove on the inner face of the driving wheel for actuating the roller and lever, substantially as herein recited.

**69,909.**—FRANCIS M. FRANKLIN, O. K. MCINTIRE, and WM. WHITELEY, Springfield, Ohio.—*Brick Mold.*—October 15, 1867.—Explained by the claims and illustration.

*Claim.*—The plunger with projecting centers on their inner faces to receive and support the packing and packing plates around them, as and for the purpose herein described.

Also, constructing the plunger of a brick press with packing, and packing plates, and tightening screws to permit the tightening of the upper and lower packing and packing plates at the same time, while they may be separate from each other and the packing kept tight in the mold above and below, substantially as herein described, and in combination with the above covering the face of the plunger with leather or some similar substance, as and for the purpose set forth.

Also, the plunger of a brick press constructed with a suitable reservoir for oil or other substance to lubricate the inner surface of the mold, substantially as and for the purpose set forth, and in combination with the above an opening in or across the plates inside of the mold to carry and supply the inside of the mold and edges of the packing constantly with oil, so that the brick is kept from sticking to the mold and the packing from wearing, substantially as herein described.

Also, saturating with oil the leather or other material covering the face of the plunger by means of ducts passing through the plunger and communicating with the oil reservoir, substantially as set forth.

Also, the cut-off, which allows all of the surplus mortar to escape from the mold and stops that escape just in time to secure the mold being uniformly filled, substantially as herein described.

**69,910.**—JOSEPH P. GATES, Lincoln, Ill.—*Bridle Bit.*—October 15, 1867.—The round on the flat side is brought to bear upon the jaw of the horse, according to the severity required. The adjustment is



made by moving the studs and turning the inner disk until the shuttle keys fall into the stop recesses.

*Claim.*—First, the shape and construction of the bit bar A, as herein described and for the purposes set forth.

Second, the double-check disks B B, constructed with the shuttle keys H, studs J, circular recess N, and stop recesses P Q R S, when arranged, combined, and operated as herein described and for the purposes set forth.

**69,911.**—DENNIS HARRIGAN, Charlestown, Mass.—*Wrench.*—October 15, 1867.—The jaws project from the rotary segmental plate; one of them is stationary, and the other is adjustable on a bar parallel with the chord of the plate and is actuated by the screw rack. The segmental plate is held by a spring bolt, so as to maintain the required angular presentation of the jaws.

*Claim.*—An improved wrench as made not only with one of its jaws stationary with respect to and projecting from its rotary segmental plate, and with the other jaw movable upon a bar parallel with the chord of such plate and projecting from the stationary jaw, but as having a screw and a screw rack applied to the movable jaw and its supporting bar, the whole being arranged substantially in manner and so as to operate as specified.

Also, the combination of such a wrench and means substantially as described, (viz: the bolt holes *b b b* and the spring bolt H,) whereby its segmental plate may be fixed in position so as to cause it to move with the handle when moved in either direction, that is, forward or backward, while the jaws may have hold of an object.

**69,912.**—G. W. HARRIS and GEORGE ELLIOTT, Aurora, Ind.—*Railroad Crossing.*—October 15, 1867.—The gaps are swaged in the rails while heated, being formed at distances corresponding to the gauge of the wheel of the train.

*Claim.*—First, a railroad crossing formed by prolonging two rails of each track in opposite directions beyond the intersecting rails and having gains B and gaps B', as and for the purpose set forth.

Second, in combination with such gained and intersecting rails, the knees D, applied as herein made known.

**69,913.**—A. L. HASKELL, Amity, Pa.—*Horse Rake.*—October 15, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the main frame S, the vibrating rake frame A C, the rocking frame *m*, and the lever *p*, when all these parts are constructed and arranged for joint operation as and for the purpose described.

Second, the combination in a two-wheeled horse rake of rigid shafts projecting from the axle, a driver's seat mounted on the front cross-bar near the left shaft, a vertically vibrating frame hinged to the rear of the axle and carrying a revolving rake, a rocking frame pivoted to the vibrating frame and carrying springs to control the rake, and a lever pivoted on the vibrating frame linked to the rocking frame and carrying a hook taking into an eye on a standard in front of the axle, by which to fasten the rake when lifted up, all constructed, arranged and operating as described.

**69,914.**—L. HERMANC, Hudson, N. Y.—*Gate.*—October 15, 1867.—The front end of the gate engaging in the double post is latched by the drop clevis. The rear end is supported and secured on the anti-friction roller that has its bearings in the rotating box, that after the gate is run back to its equilibrium, turns with it at a right angle to its former position.

*Claim.*—First, the box E with its disk F and wheel G, constructed and used with the gate as and for the purpose set forth.

Second, the metallic loop *a*, used with the gate for keeping its forward end down or supporting, substantially as herein represented.

Third, the metallic plate H with its arm, when connected to the lower side of the gate post to prevent the gate from swinging out of position, as specified.

**69,915.**—NELSON HOLMES, Laona, N. Y.—*Straw Cutter.*—October 15, 1867.—The guillotine-knife gate

is obliquely attached to the upright frame. The compound lever handle has a slotted upright projection by which the sections are connected by a bolt that runs in the elongated slot.

*Claim.*—First, the compound lever handle I E, and the connected adjustable supports K J and M, all constructed and arranged substantially in the manner and for the purposes specified.

Second, the supporting bar *n*, when placed in the cutting machine for the purpose set forth.

**69,916.**—GIDEON HUNTINGTON, Norwichville, Canada West.—*Bending Machine.*—October 15, 1867; antedated September 27, 1867.—The journal boxes of the upper roller are adjusted vertically by flanged wedges which act to support as well as to hold down the roller. The side guides are slotted for the traverse of an adjusting bolt.

*Claim.*—First, the flanged keys A A, in combination with the grooved journal boxes and mortises in the upright when constructed and arranged to operate as described.

Second, in combination with the above and with rolls, the stationary and adjustable guides when arranged and operating substantially as described.

**69,917.**—A. P. JACKSON, Warsaw, Ind., assignor to himself and OTIS PRATT, same place.—*Roofing Composition.*—October 15, 1867.—Compound of mineral known locally near Dayton, Ohio, as bluestone, 65lbs.; tar, 7 gallons; sulphur, 10 lbs.; litharge, 4 lbs.; plumbago, 6 lbs.

*Claim.*—The composition above described, when compounded and used substantially as and for the purposes specified.

**69,918.**—JONAS L. KNOLL, Hummelstown, Pa.—*Dumping Sled.*—October 15, 1867.—The platform is tilted on a transverse shaft by a cord connected to its fore end and passed over a sheave upon a post and then beneath another sheave to the doubletree. The restoration of the platform to horizontal position draws back the doubletree, and allows its re-connection to the draw bar.

*Claim.*—The dumping apparatus, constructed and operating substantially as and for the purpose herein specified.

**69,919.**—WM. F. KUSSMAUL, Baltimore, Md.—*Safety Gun Lock.*—October 15, 1867.—A spring within the lock has a projecting pin traversing the lock plate, and standing beneath a projection of the cock, to keep it from descending upon the nipple except when the gun is cocked, in which case the pin is withdrawn.

*Claim.*—The spring E, having the bolt H, in combination with the vertical slide F, the mainspring B, and the shoulder G, substantially as and for the purpose specified.

**69,920.**—ISRAEL L. LANDIS, Lancaster, Pa.—*Attachment to Stirrups.*—October 15, 1867.—The rubber is interposed between the boot and the metal.

*Claim.*—The detachable india-rubber foot pad *a*, when provided with side flaps C, which are secured to the sides of the stirrup by means of buttons and button holes, or their equivalents, in the manner and for the purposes as herein set forth.

**69,921.**—W. B. LODGE, Danbury, Conn.—*Hat.*—October 15, 1867.—Explained by the claim.

*Claim.*—A hat, made of wool-felt, having incorporated with it, after the hat is formed, or during the process of felting, fur dust, substantially as herein set forth.

**69,922.**—WM. W. LYMAN, West Meriden, Conn., assignor to THE MERIDEN BRITANNIA CO., same place.—*Manufacture of Tea and Coffee Pots.*—October 15, 1867.—The lower part of the soft metal side is placed on a block in the lathe and the bottom of harder metal is spun on.

*Claim.*—Uniting a hard metal bottom with a soft metal or britannia body of a tea or coffee pot, substantially as described.

Also, a tea or coffee pot substantially as described.

**69,923.**—ABRAHAM S. McDOWELL, Philadelphia, Pa., and SAMUEL B. McDOWELL, Montgomery county, Pa.—*Butter-Working and Printing Machine.*—Octo-



ber 15, 1867.—A shallow grooved tray receives the butter, which is worked by a pivoted roller; it is then pressed into and afterwards forced from the cylindrical mold.

*Claim.*—First, the construction and arrangement of the mold F, the adjustable bottom E, the piston printer D, the levers B and C, the prop L, the swinging hook K, and the supporting stand A, the same operating together substantially as and for the purpose described.

Second, in combination with a butter-printing apparatus constructed and operating as described, the fluted roller G turning loosely upon its axis  $g'$ , which is jointed to the post  $a''$ , as described, and the sector-shaped tray H, grooved and perforated as described, the same operating together, as and for the purpose described.

**69,924.**—JOHN G. McMILLAN, Baltimore, Md.—*Apparatus for Preserving Fruits, Meats, &c.*—October 15, 1867.—The cans are filled and the lids sealed on; a small hole is then made in the lid and a piece of gummed oil silk laid upon it. The cans are placed in the receiver, which is connected to its lid by an air-tight joint. The air is exhausted by the condensing sphere above it. The oil silk acts as a valve to seal the can when removed from the receiver.

*Claim.*—First, the arrangement of water, steam, and vent pipes with a spherical condenser, when the said condenser is encaased in a water tank, for the purpose of alternately producing a vacuum, as herein specified.

Second, the can receiver K, cover I, air tube J, and connecting pipe H, as constructed in combination with the condenser D, operating in the manner as and for the purposes herein set forth.

Third, the apparatus described by which the process of exhausting the atmosphere from cans, jars, or other vessels containing fruits, vegetables, meats, or other substances, without heating the cans or contents, substantially as herein set forth.

**69,925.**—GABRIEL MCWILLIAMS, Fostoria, Ohio.—*Sheep Shed and Rack.*—October 15, 1867.—The racks are on each side within the stable, and are pivoted to allow discharge of worthless matter by swinging up.

*Claim.*—The herein described shed and rack, constructed in the manner and for the purpose substantially as set forth.

**69,926.**—ISAAC L. MILES, Philadelphia, Pa.—*Composition for Producing Elastic Forms for Printing.*—October 15, 1867.—Composition to form pattern rollers for printing on glass, earthenware, &c.: 2 pennyweights pure india-rubber dissolved; oil,  $\frac{1}{2}$  ounce; alcohol,  $\frac{1}{2}$  ounce; glycerine,  $\frac{1}{2}$  ounce; arsenic, 2 grains; molasses, 1 pint; glue, 1 pound; dissolved in water.

*Claim.*—A composition for elastic printing forms, consisting of the within described ingredients in combination with arsenic or its equivalent.

**69,927.**—JACOB MILLER, Carrollton, Ohio.—*Car Coupling.*—October 15, 1867.—The entering link trips the sector-shaped coupling piece and allows its descent to engage the said link. The link descends by gravity and by the force of a spiral spring. This pivoted coupling piece is raised for uncoupling by a vertical lever.

*Claim.*—First, the pivoted coupling piece C C' and pin c, adapted by vibration to disengage the coupling link F, substantially as and for the purpose set forth.

Second, the movable piece G, in combination with the spring H, substantially as and for the purpose specified.

Third, the combination of the pivoted catch C, pin c, hook B, spring plunger D, and lever F, all arranged and operating substantially as and for the purpose specified.

Fourth, the movable frame G G<sup>1</sup>, flange G<sup>2</sup>, and spring plunger H, arranged and employed substantially as and for the purpose set forth.

**69,928.**—E. F. MORRIS and R. J. GREEN, Cicero, N. Y.—*Combined Hoe and Potato Digger.*—October 15, 1867.—The double-moldboard plow is associated with shovel plows on laterally adjustable beams.

*Claim.*—The swinging beams B and shares or wings F connected with yielding links  $f f$ , in connection

with plows D d, frame A, and braces g, all constructed, arranged, and operating as herein shown and for the purpose set forth.

**69,929.**—JULIUS NIEBERGALL, New York, N. Y.—*Mechanical Movement.*—October 15, 1867.—The wrist pins of the two disks are connected by a rod, whose end is carried down and has a rectangularly projecting side arm whose end is connected to a crank of the same radial length as the distance of the wrist pins from their shafts.

*Claim.*—First, the combination with the shafts  $a b$  and the connecting rod  $f$  of the arm  $k$  and crank  $j$ , substantially as set forth.

Second, the method, substantially as herein shown, of transmitting continuous rotary motion to a driven shaft through a connecting rod extending from the driving shaft by keeping the said rod at all times in a position parallel with a straight line extending from the driving to the driven shaft.

**69,930.**—WM. PARTINGTON, Philadelphia, Pa.—*Apparatus for Cooling Malt Liquors.*—October 15, 1867.—The beer from the copper flows through a series of sieves and pipes; the latter are in vessels containing cold water and ice.

*Claim.*—First, the box A, having a compartment bounded by sieves  $a, a^1$ , and  $a^2$ , and inlet and outlet pipes, all arranged substantially as and for the purpose herein set forth.

Second, the cooling box B containing the vessels C and C<sup>1</sup> and pipes or troughs  $d d$ , the whole being constructed and arranged substantially as and for the purpose specified.

Third, the tubes  $d d$  and  $f f^1$ , in combination with the vessels C and C<sup>1</sup> of the box B, or with the vessels F F<sup>1</sup> of the box D.

Fourth, the combination of the boxes A, B, and D with the contents described, or their equivalents, and with the regulating faucets specified.

**69,931.**—ANDREW PEARSALL, Atlanta, Ga.—*Spark Arrester.*—October 15, 1867.—The caloric current is curved downward by the disk at the chimney head. A trap is furnished to catch the sparks and allow them to fall into an annular chamber beneath.

*Claim.*—The arrangement of the pipe B with its flange E and disk G, as constructed in combination with pipe A, having flange D formed, as described, to project beneath flange E, having outlet into chamber C, as set forth and for the purposes described.

**69,932.**—P. D. PIKE, Stowe, Vt.—*Water Wheel.*—October 15, 1867.—The water surrounds the cylinder and flows through the sides, acting against pivoted gates and flowing out at either end. The gates are opened by a lever whose end embraces a collar upon a sleeve of the shaft, which is connected to them by toggle arms.

*Claim.*—The cylindrical water wheel A with its center partition E having two apertures G G and two adjustable gates B B, regulated by the lever C, when constructed, combined, and operating as herein described and for the purpose set forth.

**69,933.**—J. P. POPE and J. T. WHIPPLE, Chicago, Ill.—*Weighing Scale.*—October 15, 1867.—The platform has an additional platform suspended from it for use in a lower story and an additional beam connected to the main beam.

*Claim.*—First, platform C suspended from platform B of the scales above, substantially as and for the purpose set forth.

Second, rack D and balancing beam  $m''$ , substantially as and for the purpose described.

Third, the combination of rods  $o o''$ , jointed levers  $s s''$ , lever W, and holding or stop rod  $t$ , substantially as described.

**69,934.**—EDWARD PORTER, Tallmadge, Ohio.—*Churn.*—October 15, 1867.—The rotating dasher is placed diagonally in the circular receptacle.

*Claim.*—The special arrangement of the radial arms F and shaft D, in combination with the pail A, in the manner as and for the purpose described.

**69,935.**—A. W. POTTER and J. A. BARLING, Monroe, Wis.—*Rein Holder.*—October 15, 1867.—The



double bow spring is attached to the dash board, and holds the reins that are inserted beneath it.

*Claim.*—The spring A, when bent in form as shown, in combination with the board B, substantially in the manner and for the purpose specified.

**69,936.**—ROBERT POTTS, Chatham, N. Y.—*Machine for Bending Metals.*—October 15, 1867.—The sweep is adjustable upon the forming frame, and has anti-friction rollers bearing against the bar operated upon.

*Claim.*—The adjustable frame D, arranged as specified, in combination with the sweep A, substantially as and for the purpose described.

**69,937.**—ALMON E. PRESTON, Battle Creek, Mich.—*Extension Table.*—October 15, 1867.—The central part of the table has hinged leaves which, when the top is rotated 90°, form parts of the longitudinal extensions.

*Claim.*—The combination of the revolving top E, pivot D, and receptacle F, with the adjustable sliding frame B and B', the whole constructed and operating substantially as described and for the purposes set forth.

**69,938.**—S. H. RHOADES and W. CARROLL, Clyde, Ohio.—*Railway Car Seat.*—October 15, 1867.—The oscillatable side links are extensible by sliding, and are held by ratchets and catches. The back is adjustable in inclination. The head rest is also adjustable.

*Claim.*—First, the extension links C, when constructed with a sleeve D, slide E, and disk F, as arranged and pivoted to the back B and seat A, in the manner and for the purpose substantially as set forth.

Second, the disk F, provided with a circular ratchet, in combination with the spring G and back, constructed and arranged in relation to each other for the purpose and in the manner substantially as set forth.

Third, the adjustable head rest or section K, spring R, stay bars M, and rod O, as arranged in combination with the back B, in the manner as and for the purpose set forth.

**69,939.**—THOMAS C. RIDDELL, Wilmington, Del.—*Baking Frame.*—October 15, 1867.—Explained by the claim and illustration.

*Claim.*—Providing the ordinary baking pan with a wooden frame or stirrups for holding it in place for the purpose of evenly baking bread or cakes in the manner hereinbefore described.

**69,940.**—E. C. B. RICK, Hermann, Mo.—*Submarine Vessel.*—October 15, 1867.—The vessel being driven by any suitable motor is steadied on its course or deflected upward or downward by the angular presentation of the fins, which are coincidentally actuated by cranks.

*Claim.*—The arrangement of a series of crank shafts a, carrying fins c, and connected by a rod d, in combination with the adjusting screw a and vessel A, constructed and operating substantially as and for the purpose set forth.

**69,941.**—ANGELINA SNIDER, Philadelphia, Pa., administratrix of the estate of JACOB SNIDER, Jr., deceased, assignor as administratrix to JOHN VAUGHAN SNIDER.—*Breech-loading Fire-arm.*—October 15, 1867.—The breech block is attached to a sleeve, which oscillates on a pin. The longitudinal motion of the sleeve dislodges the cartridge case and the spring restores the position.

*Claim.*—The breech piece C, having a projection a' adapted to a recess a at the rear of the barrel, when the said breech piece is hinged to and arranged to slide on a pin D, for the purpose of extracting the cartridge, all substantially as set forth.

Second, the combination of the breech piece C, sleeve E, pin D, and extractor e attached to the sleeve.

Third, the sleeve and its notched enlargement d, in respect to the edge g of the frame.

**69,942.**—ROBERT W. SOPER, Janesville, Wis., assignor to himself and FRANK RICHARDS, same place.—*Mop Wringer.*—October 15, 1867.—The two parallel rolls are supported on the upper ends of the operating levers that are arranged in pairs on either side of the pail. Each pair has a common central

pivot that is operated by a vertically-moving cam attached to the treadle. The pins of the cams work separately in cam grooves at the lower ends of the levers.

*Claim.*—First, the arrangement of the supporting levers D and D' with the cam piece E, the former being provided with the cam groove f and the latter with the cam pins h, in such a manner that the vertical movement of the cam-piece shall operate the wringing rolls C and C', substantially as described.

Second, the construction of the cam piece E and guide F with the rectangular guide pin i, and vertical groove or mortise e, substantially as and for the purpose described.

Third, the arrangement of the treadle G, pivoted on the ends of the yoke I, with the cam E, operating levers D D', and spring M, when the whole are constructed and used substantially as described.

**69,943.**—GEORGE SPIELMAN, Strasburg, Pa.—*Plow.*—October 15, 1867.—The beam rests upon the flattened head of the enlarged standard, in which there is a slot curved to the radius of the hinged pivot that unites the beam to the handle. The beam is adjusted on the flattened head by washers and the set screw that engages in the slot to regulate the draft and width of furrow.

*Claim.*—First, the construction of the flattened and enlarged head b, with its curved slot of the standard B, in combination with the application and arrangement of the hinge pieces M N forming the joint J of the beam and handle, when all made in the manner and for the purpose specified.

Second, the slotted wedge K, in combination with the flanged and sunken tail piece of the point E, constructed in the manner and for the purpose set forth.

Third, the mode of constructing and applying the sole piece G by ears and bolts to the base of the land-side, arranged as shown for the purpose specified.

Fourth, the extra heel piece I, in combination with the mold board D, when made and arranged in the manner set forth.

Fifth, the combination and arrangement of the hinged beam A with the handle C, the sole piece G, heel I, wedge K, flanged point E, and mold board D, when all are made and arranged in the manner shown, for the purpose specified.

**69,944.**—FERDINAND SPINEUX, Liege, Belgium.—*Drawing and Twisting Head for Spinning.*—October 15, 1867.—The notched guide connected with the drawing roller directs the thread, so that the friction between the rove and the cylinder upon which the same is wound prevents the said rove from slipping.

*Claim.*—The roller D and its guide e, for directing the course of the thread thereon, in combination with the hollow spindles A l, substantially as shown and described.

**69,945.**—WM. H. STAATS, Crescent, N. Y.—*Railway Switch.*—October 15, 1867.—The laterally-sliding connecting bar turns the cars upon a siding or retains them upon the main track, operating in connection with the rails of the main track, which are permanent instead of oscillating.

*Claim.*—First, the laterally-sliding connecting bars E E', actuated on lines perpendicular to the course of the main track, to retain the train on the main track or divert it to the siding, substantially in the manner set forth.

Second, the combination of the rails A A<sup>1</sup> A<sup>2</sup> A<sup>3</sup> with the shifting bar H, blocks D and D', and connecting bars E E', substantially as and for the purpose set forth.

Third, the rails A A<sup>1</sup> A<sup>2</sup> A<sup>3</sup>, permanently fixed, in combination with connecting bars E E' sliding between the rails, to connect alternately with the main track or siding, substantially in the manner set forth.

**69,946.**—A. STEWARD, Plano, Ill.—*Ruffler for Sewing Machines.*—October 15, 1867.—The spring plate is attached to the presser foot, and its lower leaf passes between the gathering and the plain pieces of cloth. The feed bar feeds the lower cloth faster than the other is fed, so as to form gathers.

*Claim.*—The spring plate A B, constructed as described, combined with the presser, and arranged to operate in connection with the feeding apparatus, as and for the purposes described.



**69,947.**—D. W. STRONG, Dutch Flat, Cal.—*Laying Telegraph Wires on Railroads.*—October 15, 1867.—The insulated wire is attached to the brackets beneath the flanges of the rails.

*Claim.*—The slotted brackets or holder, for retaining and protecting the wire, substantially as described.

**69,948.**—T. GROW TAYLOR, Lawrenceville, N. Y.—*Rule and Letter Scale.*—October 15, 1867; antedated April 17, 1867.—The rule is laid slide down and the scale projecting over the desk. The letter being placed on the hook its weight is indicated on the graduated face of the scale.

*Claim.*—First, the rule A, adapted as a letter scale, when constructed and operating substantially as described.

Second, the slide C, spring E, and plate B, in combination with the rule A, substantially as described, for the purpose specified.

**69,949.**—JOHN W. THORNE, Brooklyn, N. Y.—*Clamp for Traveling Trunks.*—October 15, 1867.—The clamps increase the thickness toward the angle where there is the most danger of breakage. The corner clamps are formed with angle braces.

*Claim.*—A trunk clamp, in which the metal at the angle is strengthened by the interior filling piece *i*, rendering the same thicker, as and for the purposes set forth.

Also, in combination therewith the knuckle or angle brace *h*, applied to the metal clamp for trunks, as and for the purposes set forth.

**69,950.**—JOHN T. WARING, Youkers, N. Y.—*Machine for Ironing Hats.*—October 15, 1867.—The iron is vertically and longitudinally adjusted to the operating lever, so as to smooth hats of various sizes and shapes. The chimney is pivoted to the iron, and is secured in a vertical position by the weighted cord to which it is attached.

*Claim.*—First, the lever E, working in a universal joint and made adjustable longitudinally and vertically by means substantially as herein described, in combination with the smoothing iron D, substantially as and for the purpose specified.

Second, the combination of the weight *h* and cord *e* with the chimney *d*, pivoted to the smoothing iron, substantially as and for the purpose specified.

Third, the screw *m*, in combination with the lever E and the smoothing iron pivoted thereto, substantially as and for the purpose specified.

**69,951.**—JOHN B. CROWLEY, Cincinnati, Ohio, assignor to CHAMBERLAIN & Co., same place.—*Top Plate for Cooking Stoves.*—October 15, 1867.—The top plate projects in rear of the furnace and supports a hot-water tank, which is heated by flues running through a depression cast in the plate.

*Claim.*—First, an extended top plate of a cooking stove, formed with the pit D cast in one piece therewith, as and for the object explained.

Second, the arrangement of extended top A, pit D, and deflecting plate E, as and for the purpose set forth.

**69,952.**—JOHN LE FERRE, Charlestown, Mass.—*Window Sash Elevator.*—October 15, 1867.—The angle plate is secured to the upper bar of the sash, and has an eye-bolt to which a cord is attached and carried over a sheave at the top of the casing. The object is to raise the window by the cord.

*Claim.*—The arrangement of the angular plates C and screws *f*, provided with loops *g*, in combination with the pulley F and block G, connected to the window frame and operated by the cord D, in the manner and for the purposes specified.

**69,953.**—JOHN RICHARDS, Cincinnati, Ohio.—*Fixed Caliper Gauge.*—October 15, 1867.—Crescent-formed plates are made to fixed sizes, to act as calipers in reducing cylindrical pieces of metal.

*Claim.*—A fixed caliper gauge, when constructed as herein specified, the outline being arcs of true circles, substantially as described.

**69,954.**—JOHN RICHARDS, Cincinnati, Ohio.—*Standard Gauge.*—October 15, 1867.—The conical block is turned down into a series of cylinders of gradually varying diameters for use as a caliper gauge.

*Claim.*—First, a standard gauge constructed in the form of pyramidal cone, in the manner and for the purposes specified.

Second, the pedestal *b* or equivalent means of supporting the gauge in an inclined position, substantially in the manner and for the objects specified.

**69,955.**—DANIEL E. SOMES, Washington, D. C.—*Apparatus for Cooling, Freezing, and Heating.*—October 15, 1867.—Volatile liquid, single or compound, is forced from the vacuum into the heating chamber, while the air in the cooling division is being exhausted, and then also forced into the heating chamber, where it is compressed so as to produce considerable warmth. The pressure on the liquid forces it up the atomizing tube. The liquid jet is met by a horizontal jet of air, gas, or a combination of them, which will cause the liquor to strike in fine spray over all parts of the sides of the case, refrigerating the contents.

*Claim.*—First, the combination of the vacuum and compressing chambers or their equivalents with the pumps or their equivalents.

Second, atomizing tubes in combination with a vacuum or partial vacuum.

Third, minute holes through the walls of the vacuum chamber for the admission of liquid, air, gas, or vapor.

Fourth, tube with an atomizing lip or projection, in combination with a vacuum or partial vacuum.

Fifth, closed air spaces, or non-conducting material, or refrigerating substance, or compounds, surrounding a vacuum or partial vacuum.

Sixth, a vacuum chamber constructed substantially as and for the purpose set forth.

Seventh, a compressing chamber with atomizing tubes or holes, substantially as and for the purpose set forth.

Eighth, compressing and vacuum chambers with a safety valve between, as and for the purpose set forth and for other purposes.

Ninth, pipes and cock G, as and for the purpose described.

Tenth, non-conducting spaces or substances between the compressing and vacuum chambers, substantially as and for the purpose set forth.

Eleventh, the cases D in combination with a compressing chamber or with a vacuum or partial vacuum chamber.

Twelfth, tubes or channels extending through the compressing or vacuum chamber, substantially as and for the purpose set forth.

Thirteenth, apartments or vessels constructed substantially as herein described, to prevent conduction of heat or cold, in connection with apparatus for rarefying or expanding air, gas, or any volatile substance.

Fourteenth, chemical substances herein named, or others which may volatilize, singly or in combination, when used in a vacuum or partial vacuum in the form of mist or spray.

Fifteenth, materials for lining the compressing and vacuum chambers, for the purposes set forth.

Sixteenth, a chamber containing liquid, air, gas, food, or any substance to be cooled, with channels, tubes, or spaces in, through, or around the same for passing, forcing, or drawing spray formed by atomizing a liquid or liquids.

**69,956.**—G. W. BACON, London, England.—*Gymnastic Apparatus.*—October 22, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of a ring E with a friction slide or buckle D, when the latter is secured to one end of a strap C, and so arranged as to pass readily through said ring and through a suspending link B and slide upon the outside layer of the strap, all substantially in the manner and for the purpose herein set forth.

Second, the combination of a hand piece H with the straps or bands *c* of an improved gymnastic apparatus by means of adjustable slides secured thereto, substantially in the manner and for the purpose herein set forth.

Third, the adaptation and combination of a swing seat with the stirrups F of a gymnastic apparatus, substantially as and for the purpose herein set forth.

Fourth, the friction slide or buckle D of an apparatus, consisting of a suitable metallic frame in combination with a hinged or movable center bar *d* or *g*,



construted and operating substantially in the manner and for the purpose herein set forth.

Fifth, the use of a brake *d'* in combination with a slide D, substantially as and for the purpose herein specified.

Sixth, constructing the rings E of an improved apparatus of layers of wood arranged and combined substantially in the manner and for the purpose herein set forth.

**69,957.**—SIMON H. BADGER, Erie, Pa., assignor to himself and ROBERT FAULKNER, same place.—*Slide Valve Lubricator.*—October 22, 1867.—The oil from a close cup is discharged through holes in the cap, which is forced down on the slide valve by a spring. The oil then enters the recesses of the cross-piece, and is conveyed to oil grooves in the valve face.

*Claim.*—First, the combination of the cap D, tubular stem E, oil cup H, cross-piece C, recesses *c c*, and passages *d d*, substantially as and for the purpose specified.

Second, the grooves *e e*, in the face of the valve communicating with the passages *d d*, substantially as shown and described for the purpose specified.

Third, the combination of the spring F, cap D, and top of the steam chest with recesses *c c* and passages *d d*, substantially as described for the purpose specified.

**69,958.**—C. S. BAKER, Manchester N. H.—*Invalid Bedstead.*—October 22, 1867.—The bedstead is supported near the foot by legs which stand back from the end. A section at this end is hinged, and is let down by a pinion and rack gear, the footboard forming a foot-rest. A section at the head is raised by similar means.

*Claim.*—First, the construction and arrangement of the foot part hinged to the main portion by means of the segments F, and operated by means of the shaft G and pinion H, as herein set forth for the purpose specified.

Second, the construction and arrangement of the pawl I and spring J pivoted to the side of the main portion of the bedstead, as and for the purpose specified.

**69,959.**—JOHN BARCLAY, Attleborough, Mass., assignor to himself and RUFUS D. CASE, New York, N. Y.—*Carriage Knob.*—October 22, 1867.—The jaws are revolvable around the head and enter slots in the latter to allow the disengagement of the curtain.

*Claim.*—A carriage knob consisting of jaws B B secured to a ring *d*, which is fitted loosely over the shank of a pin A provided with slots C upon the sides of the head, all made and operating substantially as herein shown and described.

**69,960.**—WILLIAM B. BARNARD, Waterbury, Conn.—*Scissors and Shears.*—October 22, 1867.—The rabbeted part of the handle has studs which act as rivets for connection of the blade thereto.

*Claim.*—First, the combination of the cutting blades of scissors, shears or lamp trimmers, with suitable handles formed without rebates or recesses to receive the blades, but provided with projecting homogeneous rivets to secure the same, substantially in the manner and for the purpose herein set forth.

Second, overlapping the end of the tang of a shear blade with the inner edge of a rebate formed to receive it in the end of a suitable handle therefor, substantially in the manner and for the purpose herein set forth.

**69,961.**—H. BARTHOLOMEW, Dover Centre, Ohio.—*Fence.*—October 22, 1867.—The bars of the panels are keyed in slots in the hollow braced posts.

*Claim.*—The special construction and arrangement of the herein-described fence, in the manner substantially as described.

**69,962.**—JESSE BLACKINTON, Roscoe, Ill.—*Bolt Trimmer.*—October 22, 1867.—The trimmer is eccentrically hinged so that the cutting edges will be nearly parallel whether opened or closed. By changing the relative lengths of the cutter-arms and the connections, the cutting edges are thrown in or out of parallelism. The set screw stops the action of the levers by contact with the stop and prevents the

cutting edges from coming in contact with each other.

*Claim.*—First, the combination and arrangement of the cutters A A with the connections B B, and the levers L M, as herein described for the purposes set forth.

Second, the arrangement of the recess H, and the elevator bearing H' in combination with the levers D L and M, for the purposes set forth.

Third, the slot F and the pin E, in combination with the levers D L and M, when arranged as and operating for the purposes set forth.

Fourth, the flat-headed bolt P, in combination with the slot R and the levers L and M, when arranged as and operating for the purposes set forth.

**69,963.**—HENNING BOETIUS, Hanover, Prussia.—*Construction of Metallurgic and other Furnaces.*—October 22, 1867.—The flues are arranged on the outside of the walls of the furnaces and connect with air passages above the fire-chamber, the draft being regulated by valves. The air, passing outside the walls of the fire-chamber, is heated before it is mixed with the combustible gases and thereby economizes the fuel.

*Claim.*—Providing furnaces which are to be used in the manufacture of glass, iron, steel and other metals and substances, and for other purposes, with a series of flues *d d* arranged around the outer walls of the fire-place or in the walls between the fire-places, for the purpose of conveying air to the combustible gases evolved from the fuel, said flues being provided with a valve or valves *f*, all as herein shown and described and for the purposes set forth.

**69,964.**—H. G. BULKLEY, New York, N. Y.—*Apparatus for Drying and Desiccating.*—October 22, 1867.—The ceilings are perforated for the escape of noxious gases and moisture. The steam pipes charge the air with heated steam to open the pores and remove the dampness of the grain, while return flues carry the heavy gases and moist air and discharge it in the furnace. The moist atmosphere is followed by a dry one that completes the process.

*Claim.*—First, the openings H K when covered with wire gauze, or its equivalent, and regulated by valves and used in connection with a steam atmosphere, for the purposes substantially as specified.

Second, the return flues N M, in combination with the ash pit D, when constructed, arranged, and used in combination with a steam atmosphere, substantially as specified.

Third, the mode of consuming waste steam and gases produced from substances while drying in kilns, substantially as described.

Fourth, the perforated ceiling O, when made of fire-proof material and covered with any incombustible substance and used with a steam atmosphere, for the purpose and in the manner substantially as specified.

Fifth, the fire-proof drying kiln, constructed and operated in the manner substantially as described.

**69,965.**—RUFUS D. CASE, New York, N. Y., and JOHN BARCLAY, Attleborough Falls, Mass.—*Carriage Knob.*—October 22, 1867.—The knob has spring side-catches over which the eyelets are passed, and the catches must be compressed to permit its removal.

*Claim.*—The spring jaws *c c*, having square shoulders upon their outer sides and secured in the wood-work to the inner end of the grooved screw pin A, forming part of the same, and adapted to be compressed in the groove *b*, in the head *a* of said pin, as herein described for the purpose specified.

**69,966.**—JOSEPH CHADWICK, Wheaton, Ill.—*Weather Strip for Doors.*—October 22, 1867.—The door has an inclined, horizontal rib running from side to side, which engages a projection upon a hinged strip lying flush with the threshold, and raises the said strip against the lower side of the said rib.

*Claim.*—The arrangement of a rubber packing *d* between the door and ledge C, substantially in the manner and for the purposes described.

**69,967.**—JOSEPH CHASE, Worcester, Mass.—*Clouded Yarn.*—October 22, 1867.—Portions from a strand of roving are twisted into the thread at intervals.



*Claim.*—Clouded yarn, as an improved article of manufacture, made substantially as above described.

**69,968.**—JOHN C. CLAPP, Homer, N. Y.—*Bath Tub.*—October 22, 1867.—The frame is made of detachable parts; the rubber-cloth water receptacle is supported by the edges of the frame.

*Claim.*—First, a portable bath made of india-rubber cloth, or equivalent flexible water-tight material, in such a form and manner that it may be collapsed and compactly folded or rolled into a portable bundle, substantially as herein specified.

Second, the combination of the frame B C D with the portable bath A, the whole constructed and operated substantially in the manner and for the purpose herein set forth.

**69,969.**—AUGUSTUS H. CLEMENT, Sunbury, Pa.—*Washing Machine.*—October 22, 1867.—The perforated beater oscillates in a perforated, segmental case within the suds box.

*Claim.*—The combination of the perforated bottom D and perforated slides C in radial grooves *b*, boards E, and beater A B, substantially as described.

**69,970.**—WM. A. CLEVELAND, Waterville, N. Y.—*Medical Compound for the Cure of Ring Bone, Spavin, Splint, &c., in Horses.*—October 22, 1867.—Composed of alcohol, 2 oz.; iodine, 40 grs.; bichloride of mercury, 20 grs.; croton oil, 30 drops; allowed to stand in a sand bath 48 hours at a temperature of 86° Fah.

*Claim.*—The medical compound above described, to be compounded and prepared substantially as described and for the purposes described.

**69,971.**—E. S. COLTON, Boston, Mass.—*Ice Cream Refrigerator.*—October 22, 1867.—A metallic chamber within the metal-lined wooden case is surrounded on five sides with an ice space, and is entered by opening the wooden door of the case and the metallic one of the chamber. The cream is put into receivers, which have bottoms so finely perforated as to retain the mixture.

*Claim.*—The ice cream refrigerator, made as described; that is to say, of the two boxes A B, the metallic lining *a*, the ice-receiving space *f*, and the three openings and their doors or covers *b C e*, arranged together as specified and represented.

Also, as an improvement in the molds or vessels for holding cream or liquids to be frozen by such refrigerator, the construction of such molds foraminous on those surfaces to which the cream, when frozen, would be liable to adhere by atmospheric pressure, under circumstances as described.

**69,972.**—T. F. CONNER, Odin, Ill.—*Car Coupling.*—October 22, 1867.—The upper side of each arrow-headed coupling bar has a catch, which, in combination with a pawl, holds the head of the other coupling bar. A hook, oscillating in a vertical plane, passes through a slot in the coupling bar, and may be used with an ordinary link.

*Claim.*—First, the arrow heads A A', the hooks *k k'*, the cranks *d d'*, the lifting rods *e e'*, the pawls *c c'*, and side plates R R', all in combination, when constructed and arranged substantially as shown and specified.

Second, the construction of the slotted draw bar A, in combination with the hook *k*, when constructed and arranged substantially as shown and specified.

**69,973.**—JOHN W. CRANNELL, Yorkville, Mich.—*Tuyere.*—October 22, 1867.—The irregularly-recessed cylinder is placed eccentrically on its turning shaft, so that the blast openings may be varied.

*Claim.*—The arrangement and combination of the irregularly-recessed cylinder E and shafts S with the wind chest A and cap C, substantially in the manner and for the uses herein described.

**69,974.**—GEORGE CROMPTON, Worcester, Mass.—*Weft Stop Motion for Looms.*—October 22, 1867.—A series of fingers on a tilting bar is brought down upon the shuttle thread at each stroke of the lay. These fingers depress another set of fingers by means of the thread when whole; but when the thread is broken the lower fingers are not depressed and the loom is automatically stopped.

*Claim.*—In combination with the sets of fingers or prongs between which the chute passes the mechanism by which, through their action, the shipper lever is released when the thread is broken, substantially as set forth.

**69,975.**—W. JENNINGS DEMOREST, New York, N. Y.—*Movable Treadle for Small Lathes, Sewing Machines, &c.*—October 22, 1867; antedated October 12, 1867.—The treadle is pivoted just in front of the heel-rest, and its fore end is connected to the crank by a rod.

*Claim.*—The general arrangement and combination of the base A, standards B and C, balance and driving wheel *e*, pedal E, crank F, and link G, substantially as shown and described, the whole constituting a new article of manufacture termed the "pedemotor."

**69,976.**—GEORGE FEBLES, Fostoria, Ohio.—*Combined Sheep Rack and Trough.*—October 22, 1867.—The grain reservoir is between the racks, and has a perforated bottom with a similarly perforated slide beneath. The openings of the slide are brought to agreement with those of the bottom to receive a charge of grain, and the slide is then moved back so as to bring the openings over others discharging into the trough.

*Claim.*—First, the adjustable pivoted racks A, troughs G, and bars K, when arranged in combination with the frame B, in the manner and for the purpose substantially as set forth.

Second, the grain bins C, side E, in combination with the troughs G and rack A, when arranged in the manner as and for the purpose described.

**69,977.**—CHRISTOPHER C. FELLOWS, Center Sandwich, N. H.—*Clothes Line Clamp.*—October 22, 1867.—The ends of the two helical springs are engaged together, so as to cause the clamping movement of the jaws.

*Claim.*—The combination as well as the arrangement of the two helical springs C D with the jawed levers A B, such springs being connected with the levers by arms extended from the springs and through the levers, in manner as specified.

Also, with the levers and springs so applied together, the connection of the two arms which go through each lever, the whole being substantially as specified.

**69,978.**—ROGER FINNEGAN, New York, N. Y.—*Hoisting Apparatus.*—October 22, 1867.—The endless rope operating the drum passes through sockets in oscillating levers, and is pinched by a cam while the lever moves in one direction, but allowed to run through the socket on the return stroke of the lever. The levers are operated by attachment to endless ropes passing over two pulleys, one of which is oscillated by a lever.

*Claim.*—First, the levers D and D', when provided with tubes *a* and *a'*, in combination with the levers E and E', having cam projections *c*, all made and operating substantially as herein shown and described, so that each set of levers will clamp the endless rope C during every alternate stroke, as set forth.

Second, the levers D and D' and E and E', when arranged as described, in combination with the rope F and oscillating shaft H, all made and operating substantially as herein shown and described.

Third, the arrangement of the cord K, levers D D' E E', and tubes *a a'*, as herein described for the purpose specified.

Fourth, providing the tubes *a a'* with the set screws *d*, substantially as and for the purpose herein shown and described.

**69,979.**—JOHN FISHER, St. Joseph, Wis., and JACOB MEILL, Stillwater, Minn.—*Sled.*—October 22, 1867.—Explained by the claims and illustration.

*Claim.*—First, the flexible knee A, constructed as described, fitting and turning loosely upon the end of the iron axle B, bolted to the bolster D, its lower end stepped in the gripe E, and held in position by means of the iron rave F, whose center passes over the top of said knee, and whose ends are secured to the top of the runner as herein described, for the purpose specified.

Second, the slide coupling constructed as described, consisting of the loop iron I, bolted to the coupling



tongue *g*, and sliding upon the slide iron *H*, bolted to the under side of the reach *H*, the latter being rigidly secured to the front and rear bolsters *D* by the braces *L*, all operating as described, whereby the hind runners are allowed a longitudinal play while the bolsters are inflexible, as herein shown and described.

Third, the inflexible bolsters, formed by the combination of the flexible knees *A*, raves *F*, slide fastenings *I K*, coupling tongue *g*, and immovable reach *H*, substantially as described for the purpose specified.

**69,980.**—THOMAS FLAGLER, Grass Lake, Mich.—*Fruit Gatherer*.—October 22, 1867.—The jaws are contracted by a wire passing from them to the hand. The conducting pipe is extended by the staff. The fruit rolls down to the hand of the operator.

*Claim.*—The receiver jaws, manner of operating them, mode of splicing the sectional staff with ferrule and dowel, combined manner of attaching conductor to staff by means of rings to slide upon the same, also the cushion and elastic attachments, the whole constructed and arranged in the manner and for the purpose specified.

**69,981.**—CHRISTIAN FLORY, East Donegal, Pa.—*Corn Cultivator*.—October 22, 1867.—The metallic beams are pivoted to the tongue at their fore ends, and are adjustable between vertical bolts in cross beams.

*Claim.*—The specified arrangement of the pole *A*, shovel beams *E F'*, straight cross-bars *D D'*, with the screw bolts *d*, notched and terminal, straight edged shovels *s*, all constructed and combined in the manner and for the purpose specified and shown.

**69,982.**—W. T. FOSTER, Jeffersonville, Ind.—*Adjustable Hood for Coal Grates and Fire Places*.—October 22, 1867.—The canopy has two concentric segmental plates, supported on triangular end pieces, and pivoted so as to be let down more or less in front of the fire.

*Claim.*—The cowl, constructed as described, consisting of the triangular pieces *A B*, pivoted together upon a common pivot *a*, the part *A* fitting into the part *B*, and the latter into the chimney, and controlled by the springs *C*, substantially as described for the purpose specified.

**69,983.**—SAMUEL W. FRANCIS, New York, N. Y.—*Oar*.—October 22, 1867.—The oar is hinged, and is supported on a pivot at each side of the joint, so as to enable the rower to face forward.

*Claim.*—An oar, constructed substantially as described, with the combination of devices used and set forth in the specification.

**69,984.**—WM. M. FRANZ, Bucyrus, Ohio.—*Operating Telegraph Keys*.—October 22, 1867.—The lever of the key has a slide which detaches the telegraph line when the key is in use. The spiral spring in connection with the slide restores the circuit when the message is discontinued.

*Claim.*—The combination of the pivoted transverse lever *J* and the slide *A*, operated and self-adjusted by the spiral spring *F*, or its equivalent for the purpose, in the manner substantially as shown and described as aforesaid.

**69,985.**—SMITH GARDNER, New York, N. Y.—*Process of Ornamenting Marble*.—October 22, 1867.—The stone is permeated by coloring matter in solution, into which it is immersed in a tank, and subjected to hydrostatic pressure.

*Claim.*—Permeating pieces of marble and other stone with coloring chemical fluids that will change the color of said stone, substantially as and for the purposes herein set forth.

**69,986.**—WM. GEE, New York, N. Y.—*Lining Soda Fountains*.—October 22, 1867.—The two parts of the fountain are bolted together, and the tin lining is subjected to hydraulic pressure to closely fit it to the outer case. The lining is afterward electroplated to cover any flaws that may have arisen from the pressure.

*Claim.*—The lining or coating of the interior of soda water fountains or retorts with shells of tin or other suitable metal, subjecting the latter to hydraulic or other pressure, when fitted or adjusted in the

fountain or retort, and then electro-plating them, substantially as and for the purpose set forth.

**69,987.**—JAMES K. GLENN, New York, N. Y.—*Motive Power*.—October 22, 1867.—The endless rails on the carriage are traversed by series of rollers, that as the car progresses set the feet of their head blocks on the ground consecutively. The feet are connected by endless chains, and the rollers are traversed around the rail by power, or the power is applied to the carriage, and the rollers and head blocks form substitutes for wheels.

*Claim.*—First, the endless rails *B B*, when secured to any kind of vehicles or crafts, and when connected with the rollers *E E'* moving on the inner and outer edges of the rails, substantially as and for the purpose herein shown and described.

Second, the endless chain *D*, consisting of the heads *a a*, which are connected by rods, chains, or their equivalents longitudinally, and by suitable connecting rods laterally, and when provided with rollers *E* and *E'*, so as to work within and around the endless rails *B B*, as set forth.

Third, a driving gear for vehicles and craft made and operating substantially as herein shown and described.

**69,988.**—EDWARD W. GLOVER, Medford, Mass.—*Bosom Pad*.—October 22, 1867; antedated October 12, 1867.—The soft, inflated cushion is attached inside the partially rigid, inflated pad. The pad forms a substitute for metallic-spring expanders for ladies' use.

*Claim.*—An inflated bosom pad, made by uniting the sack *C D E F* to the under side of the disk *A B* on the line *H H*, which is more or less remote from the extreme edge of the disk, substantially as described and for the purpose set forth.

**69,989.**—THOMAS HARDING, Springfield, Ohio.—*Bag Holder*.—October 22, 1867.—The expansive hoop, actuated by the pivoted levers, stretches out the mouth of the bag for convenience of filling.

*Claim.*—The expanding and contracting of the open spring hoop by means of the levers *E E*, as shown in Fig. 1, in connection with the short bars or levers *G G*, constructed and operating as and for the purpose herein set forth.

**69,990.**—JAMES M. HART, Des Moines, Iowa.—*Hand Spinning Machine*.—October 22, 1867.—The feed-roller carriage is moved from the spindles by a belt, which winds on a drum connected by a clutch to the driving shaft. When the roller frame has traveled to the end of its course a pendant disconnects the clutch, and the carriage is actuated by a weighted cord to run back. The upper feed roller has a spur wheel, engaged by a rack to cause the feed motion when moving from the spindles. The rack is depressed by a pivoted pendant to disengage it from the spur wheel during the return movement.

*Claim.*—First, the arrangement of the clutch *G*, driving pulley or drum *M*, shifting lever *H*, pendant piece *I*, the band *K* and the carriage *E*, operating substantially as and for the purpose herein described.

Second, the spring rack *e'* and pinion *e*, in combination with the feed rollers *d d'*, the carriage *E*, the clutch *G* and the shifting lever *H*, arranged and operating substantially as and for the purposes herein described.

**69,991.**—J. H. HASKELL, Baltimore, Md.—*Leather Punching Machine*.—October 22, 1867.—The guides of the rollers lead the leather to the punches. The rubber wheels keep the leather to its position.

*Claim.*—First, the combination of the shafts *G* and *L*, carrying punching and rest wheels, together with feed wheels *I*, substantially as and for the purpose described.

Second, the wedge blocks *P*, in combination with the frames constituting the bearings to the shaft *L*, substantially as and for the purpose specified.

**69,992.**—WILLIAM H. HAWLEY, Utica, N. Y.—*Grappling Iron*.—October 22, 1867.—The points of the jaws are placed on opposite sides of the timber and the toggle joint draws the jaws together when actuated by a weight suspended from the hook.

*Claim.*—First, the combination of the arms *A A*, toggle joint *B*, and hook *C*, constructed and operating



substantially as described and for the uses and purposes mentioned.

Second, in combination with the grappling wires, the elevating and detaching apparatus, constructed and operating substantially as described.

**69,993.**—THOMAS HAYNES, St. Louis, Mo.—*Knife Sharpener*.—October 22, 1867.—The edge of the knife engages the edge of the middle bar while being drawn back and forth between it and the adjoining bar. The friction is regulated by the lever and set screw above.

*Claim.*—The arrangement and application of the angular steel bar E, in connection with the bars D and F, in the manner hereinbefore described for the purpose set forth.

**69,994.**—JOHN HEGARTY, Jersey City, N. J.—*Portable Fountain*.—October 22, 1867; antedated October 17, 1867.—The rotary pump in the bottom of the basin is operated by clock work to throw a jet of water into the air, from which it returns to the basin again.

*Claim.*—First, the combination and arrangement upon the pediment B, of the basin A, to the bottom of which is secured the metal ring C, with the perforated basin F, through which the tube E passes, flanged piston D, within the ring C, and music box H, as described, all operated by the clock work, substantially as herein set forth for the purpose specified.

Second, the tube e, as arranged around the shaft f, and in the stem d, of the revolving piston D, in combination with the cylinder C, secured to the bottom of the basin A, so that no joints are in the device that would require a packing to keep them water tight, as set forth.

**69,995.**—MARY ANN HILT, Syracuse, N. Y.—*Medical Compound*.—October 22, 1867; antedated October 12, 1867.—Remedy for catarrh. Boil  $\frac{1}{2}$  ounce of hops in  $1\frac{1}{2}$  pint of rain water, strain and add to the infusion  $\frac{1}{4}$  ounce of gold thread, (eoptis trifolia,) boil, strain, and add 2 drachms of alum.

*Claim.*—The above described composition, as made of the ingredients and compounded in the manner set forth.

**69,996.**—WILLIAM L. HUBBELL, Brooklyn, N. Y.—*Can Opener*.—October 22, 1867.—The adjustable, pointed, pivot screw retains the position while the knife attached to the heel cuts out the disk.

*Claim.*—The can opener, formed with the cutter d, made as described, and placed diagonally in combination with the spike e, as and for the purposes set forth.

**69,997.**—ARTHUR HUSTON, Bristol, Me.—*Needle Threader*.—October 22, 1867.—The metallic parallelo-piped has a series of transverse conical holes varying to the size of the needles. The small ends of the holes correspond with the eyes of the needles which are placed in the grooves of the block to which the perforated plate is attached.

*Claim.*—The improved needle threader, made substantially as described, viz: with the spring e, the series of grooves b, varying in their sizes, and the series of conical or tapering holes a, varying in their sizes, arranged together, and with the block or bar A, as specified.

**69,998.**—DWIGHT HYDE, Bridgeport, N. Y.—*Churn*.—October 22, 1867.—The beveled wings are attached to the vertical shaft so as to rotate at different altitudes.

*Claim.*—First, the dashers a, beveled as shown, and arranged on a vertical octagonal shaft, in a spiral ring, one dasher on each side of shaft, substantially as and for the purpose specified.

Second, the combination of the driving wheel A, gear wheel B, bent b b, body D, with the shaft e, and dashers a, when said shaft and dashers are constructed and arranged as set forth and described for the purpose stated.

**69,999.**—J. E. JINKINS, Milton, Fla.—*Plow*.—October 22, 1867.—The frame has its front bar beveled so as to form an oblique surface. The bar is curved longitudinally and has an oblong slot through which the bolt passes that secures the share at an

altitude in accordance to the depth of draft. A sliding scraper is adjustably attached to the side of the bar.

*Claim.*—First, the adjustable share C, applied to the front bar a of the frame a of the plow, substantially as and for the purpose specified.

Second, the adjustable side cutter or scraper D, in combination with the adjustable share C, and frame A, all arranged to operate in the manner substantially as and for the purpose specified.

**70,000.**—A. JUSBERG, Galva, Ill.—*Pump*.—October 22, 1867.—The two pump cylinders are placed side by side and the cranks arranged rectangularly to each other so that a regular flow of water shall take place, the piston of one traveling at the greatest speed while the crank of the other is passing its centers.

*Claim.*—The arrangement of the pump cylinder A, cylinders n n<sup>2</sup>, chambers G G<sup>2</sup>, G<sup>3</sup>, G<sup>4</sup>, valves I K, plates B B<sup>2</sup> and F, forming chambers E, all operating as described for the purpose specified.

**70,001.**—M. A. KELLER, Littleton, Pa.—*Harvester*.—October 22, 1867.—The cutter bar is raised by a hand lever. A crank turning in a bearing attached to the fore cross-bar is connected to a rod passing through a guide plate attached to the rear bar. The rod passes through a slot in the standard bar, which is connected to the cutter, and the rebent end of the rod enters one of a series of perforations in the said standard bar to hold the cutter to any required elevation.

*Claim.*—First, the crank shaft L, and rod P, in combination with the standard bar Q, bars O M, lever W, rod e<sup>2</sup>, double crank shaft A<sup>2</sup>, and cutter bar U, substantially as described for the purpose specified.

Second, the standard bar S, lever T, bar O, and cutter U, in combination with the crank shaft L, rod P, standard bar Q, bar M, lever W, rod e<sup>2</sup>, and double crank shaft A<sup>2</sup>, substantially as described for the purpose specified.

**70,002.**—JACOB H. KENDRICK, Dexter, Mich.—*Horse Hay Fork*.—October 22, 1867.—Two tines are fixed to the frame and one tine is pivoted to it. The moving tine is so hung as to retain a hold of the hay except when retracted by the flexion of its jointed connection bar, which is accomplished by a cord attached thereto.

*Claim.*—First, the adjustable jointed trip brace G, in combination with the tine E, standard A D, and pulley block F, and clevis H, all constructed as described, for the purpose specified.

Second, the combination and arrangement of the curved standard A, tines B E, brace bars C D, adjustable jointed trip brace G, clevis H, pivoted pulley block F, pulley K on the brace bar C, all constructed and operating as described for the purpose specified.

**70,003.**—EBEN W. KEYES, Boston, Mass.—*Toy Cue*.—October 22, 1867.—The spring is drawn back into the hollow stock and engaged by the trigger, and when released discharges the load.

*Claim.*—A cue, consisting of a handle K, barrel L, rod M, and trigger O, made substantially as described and for the purpose set forth.

**70,004.**—GEORGE W. KING, Schoharie, N. Y.—*Horse Rake*.—October 22, 1867.—The rake head is pivoted in the ends of the links, which are connected by straps to the axle. The thills are hinged to the links so as to assist in raising the rake when dumping the load. The rake is dumped by the action of a hand lever. The rake is raised from the ground when desired by a lever connected to the links by a rod, bell crank, and chain.

*Claim.*—First, the links e e<sup>1</sup>, hinged to the axle a, and receiving the rake head e, in combination with the shafts f, and sliding-seat rider g, substantially as set forth.

Second, the arrangement of the lever r, dumping spring t, treadle s, lever m, h and o, and chain u, substantially as and for the purposes set forth.

**70,005.**—BENJAMIN S. LAWSON, Brooklyn, N. Y.—*Wrench*.—October 22, 1867; antedated October 19, 1867.—The moving jaw has a guide bolt adjustable in



a longitudinal slot of the wedge-formed lever, whose rectangularly bent end forms the fixed jaw.

*Claim.*—The slotted tapering wedge A, in combination with the movable jaw *c*, screw *d*, and nut *f*, all made and operating substantially as herein shown and described.

**70,006.**—S. Z. LESLIE, Hartland, Me., and T. W. PORTER, Boston, Mass.—*Carriage Corner Body Iron*.—October 22, 1867.—The corner irons have flanged angle plates for attachment to the bottom and sides, and a socket in the corner for insertion of the pillar.

*Claim.*—First, the tube or socket *d*, in combination with the body corner irons of carriages, substantially in manner as described and shown.

Second, the spring *f*, or its equivalent, in combination with tube *d*, and pillar *G*, substantially as described and shown.

Third, the flange *b*, formed upon the corner iron, to connect with the sills, substantially in manner as and for the purpose specified.

**70,007.**—EDWARD J. LEYBURN, Lexington, Va.—*Harvester Rake*.—October 22, 1867.—The rake arm is hinged to the reel and connected to an oscillating arm pivoted to the same. The rake arm traverses a guide upon the reel, and the oscillating arm is actuated by a fixed cam upon the journal post of the reel.

*Claim.*—First, the construction of the rake arm, of two sections, lapped and connected together by means of joints, so as to admit of the lower section having the rake attached to it, being turned independently of the upper section, substantially as described.

Second, the rake guide *D*, applied substantially as described, and having a turning pin *f*, secured to its inner end, in combination with the fork *h* upon the rake arm *E E'*, for the purpose described.

Third, the cam rail *J'*, in combination with the cam *J*, applied to the reel post *B*, substantially as described.

Fourth, the pivoted and elastic yielding rake *S*, applied to an arm which is combined with a reel, and operated substantially as described.

**70,008.**—JOHN M. LONG, Hamilton, Ohio.—*Horse Rake*.—October 22, 1867.—The rake head is so connected to the axle and the seat that the weight of the driver assists in turning up the rake for discharge of hay, and simultaneous descent of the clearer fingers. The seat is raised and the rake reset by a lever.

*Claim.*—First, the rake teeth *F*, constructed and attached to the axle *D*, substantially in the manner herein shown and described.

Second, the arrangement of the shafts *A*, slotted axle *D*, bar *B*, cleavers *C*, lever *G*, and teeth *F*, as herein described, and for the purpose specified.

**70,009.**—H. H. MACKLIN, New Springfield, Ohio.—*Churn*.—October 22, 1867.—The vertical dasher is journaled in a frame standing diagonally across the square cream box. The dasher and frame have parallel radial slots.

*Claim.*—The special construction of the adjustable frame *B* and breakers *C*, in combination with the slats *D*, beaters *D'*, and the box *A*, when arranged and operated in the manner substantially as described.

**70,010.**—CHARLES MESSENGER, Cleveland, Ohio.—*Tool for Opening Sheet Metal Cans*.—October 22, 1867.—The plate has a series of transverse slots for the passage of one corner of the triangular cutter plate, which is perforated for passage of the holder rod. The latter has a point for the perforation of the can, and acting as a fulcrum around which the cutter is revolved when removing a disk from the can. The fore end of the rod passes through a hole in the plate, and its rear end is held by the ring.

*Claim.*—The rod *C*, blade *E*, and ring *D*, in combination with the plate *A*, for the purpose and in the manner set forth.

**70,011.**—WYATT W. MILLER.—Safe Harbor, Pa.—*Construction of Fagots for Beams*.—October 22, 1867.—The fagot is composed of flat plates connected together by bars dovetailed into the ends of the plates, and is put together in the form of the required beam, ready for heating and rolling.

*Claim.*—The fagots for piling beams, of smooth top and bottom plates *A A*, vertical or horizontal

plates forming the web *B*, all secured together by the bars *c*, dovetailed into such top and bottom plates, flush with their ends, and into the web *B*, or upon its outer sides, substantially as herein shown and described.

**70,012.**—GABRIEL NEUDECKER, Richmond, Va.—*Preparing Tobacco*.—October 22, 1867.—Explained by the claim.

*Claim.*—The process herein described of manufacturing tobacco, by subjecting the pressed tobacco to a temperature of about 120° Fahrenheit, until all tendency to vegetable fermentation is destroyed, and then repressing and repacking in fresh cases, substantially as and for the purposes set forth.

**70,013.**—L. F. PALMER, Endfield, N. Y.—*Wagon Axle and Gearing*.—October 22, 1867.—The rotating axle has journals in the hubs and in the boxing below the springs. The oil is supplied automatically through tubes to the journals. The pivoted lever attached to the box connects by a rod with the brake lever and actuates the same.

*Claim.*—First, the construction of a revolving axle for a wagon or carriage, with two journals or boxes, the outer one in the hub of the wheel and the inner or other under the springs or bearings of the body of the wagon on the axles, and their arrangement in the manner substantially as described.

Second, so constructing the lower part of the boxing under and connected with the springs that the plate *II* can be removed, and the revolving axles, without disturbing the straps *J J*, or the springs, or the other parts connected therewith, as described.

Third, the placing over the springs the broad plate *L*, and beneath the block *A*, the upper part of the boxing of a revolving wagon axle, and binding the same in one fixture, independent of the lower part of the boxing *II*, as described.

Fourth, the perforated plate *L*, spring *K*, block *A*, and box *O*, of a wagon with revolving axles, all provided with a tube or passage *P*, for the purpose of oiling the boxing and journals, as described.

**70,014.**—F. S. PEASE, Buffalo, N. Y.—*Carburetor for Locomotive Head Lights*.—October 22, 1867.—The barrel contains a spring that when wound up rotates the wheel, by which motion is communicated to the shaft wheel and tripping cams which lift the bellows. The bellows discharge the air into the reservoir, whence it is conducted by a pipe to the carbureting chamber, from whence the carbureted air is conducted to the burner in the reflector.

*Claim.*—First, the combination of a carburetor with the head light of a locomotive when the former is placed within the shell of the head light, substantially as described.

Second, the combination of the spring, the blast apparatus, one or more, and the carburetor, arranged in the shell of a head light.

Third, also an argand burner and a carburetor, arranged within the head light of a locomotive.

**70,015.**—JACOB PFITZINGER, Buffalo, N. Y.—*Coal Hod*.—October 22, 1867.—The skeleton frame is attached to and supports the hod, which is placed over an opening in the stove. The valve being opened the coal is shot out.

*Claim.*—A coal hod having a malleable iron bottom *B*, valve *C*, short pipe connection *D*, and skeleton frame *E*, substantially as herein described.

**70,016.**—H. M. QUACKENBUSH, Herkimer, N. Y.—*Extension Ladder*.—October 22, 1867.—The ladders are coupled with clips and the upper section is raised by a cord that is secured to its foot and runs over a pulley that is attached near the top of the stationary ladder. The hook pivoted to the upper ladder embraces a round of the stationary ladder and keeps the ladder extended.

*Claim.*—First, the hook having an inclined top *e*, in combination with the spring *d*, and parts *A* and *B* of the ladder, substantially as specified.

Second, the guard finger *f*, in combination with the hook *B* and parts *A* and *B* of the ladder, substantially as specified.

Third, the spring *d*, or its equivalent, in combination with the hook *D*, substantially as specified.



**70,017.**—REYNOLDS T. REED, Binghamton, N. Y.—*Mop Wringer*.—October 22, 1867.—The rollers are connected with a frame that is placed inside the pail and is secured to the rim by a clamp and thumb screw. The rollers are expanded by the springs and contracted by the treadle.

*Claim.*—The combination of the frame B B, consisting of the upright pieces and spring arms C C with the rollers A A wire or cord D, all operating within the compass of the area of the pail, constructed substantially as herein described and for the purpose set forth.

**70,018.**—GEORGE WAIDE REYNOLDS, Smethick, England.—*Skirt Wire*.—October 22, 1867.—The strip is first coated with a covering of paper and afterward a partial covering of wire is woven thereon.

*Claim.*—Skirt wire first covered with an envelope of paper or similar material applied as described, and then an open braided covering or jacket, substantially as set forth.

**70,019.**—LAWRENCE RHOADES, Newport, R. I.—*Buckle*.—October 22, 1867.—The pivoted loops being drawn down, engage on the rectangular frame of the buckle and hold the strap by friction.

*Claim.*—The buckle A A, when provided with the supplementary loops B B, pivoted at *b*, in each end thereof, opening outwardly and upon the sides of the buckle in such a manner that the strain upon the end C of the strap presses it against the sides of the frame, and the strain upon the end D releases it, as herein set forth for the purpose specified.

**70,020.**—WILLIAM RHOADS, Jr., and TIRAS GERHARD, Reading, Pa.—*Machine for Cutting Cheese*.—October 22, 1867.—The rotating table presents fresh surfaces to the knife, which is actuated by the rack and pinion.

*Claim.*—The revolving table B, when provided with the cog-wheel *b*, operated by means of the pinion *c* attached to the shaft F, in combination with the rack *a*, knife E, and pinion *d* upon the shaft D, as herein shown and described.

**70,021.**—JOHN S. RICE, Newark, N. J.—*Steam Radiator for Hatters' Kettles*.—October 22, 1867.—The perforated steam-pipe supplies steam to the finely perforated cylinder in the hatters' kettle. The rapid diffusion of the minute particles of steam keeps the water at an even temperature.

*Claim.*—The arrangement of the perforated pipe C, perforated drum A, and kettle B, all constructed as and for the purpose set forth.

**70,022.**—C. RICHEL, Cleveland, Ohio.—*Garden Line, &c.*—October 22, 1867.—The line as it is drawn out coils the spring, the uncoiling of which rewinds the line.

*Claim.*—The mechanical movements with a spring in combination with the chalk box and line, substantially as and for the purpose set forth.

**70,023.**—WILLIAM A. ROBINSON, Grand Rapids, Mich.—*Carpet Stretcher*.—October 22, 1867.—The grips taking hold of the edge of the carpet it is stretched to its position by the ratchet bar which is dogged forward by the lever and pawls.

*Claim.*—The combination of the ratchet bar *g*, pawls *k k*, and lever *l*, with the grips A A and platform *m*, substantially as and for the purpose intended.

**70,024.**—JOHN RUEGG, St. Louis, Mo., assignor to J. G. MARRIOTT, same place.—*Bung and Bush*.—October 22, 1867.—The metallic bushing is serewed into the bung hole and is riveted to the stave. The bung is serewed into the bushing and secured by serews. The vent holes that extend into the socket and bung become operative on the partial unscrewing of the bung.

*Claim.*—First, the bushing A A' when provided with serew threads *a a'* and rivet holes *a''*, and with a cap or lock plate C, as described and for the purpose set forth.

Second, the bung B, when provided with serew threads by means of which to secure it to the pushing, and the vent channel *b'* and wrench shank *b*, as and for the purpose shown and described.

**70,025.**—CYRUS W. SALADEE, Newark, Ohio.—*Protector for the Edges of Collars*.—October 22, 1867.—The shield piece is attached by paste.

*Claim.*—Protecting the wearing edge of collars and cuffs by securing thereto the shield piece B, in the manner and for the purpose substantially as shown and described.

**70,026.**—F. W. SAWYER, Grafton, Mass.—*Loom Shuttle*.—October 22, 1867.—The shuttle has supporting anti-friction rollers.

*Claim.*—A shuttle having friction rolls B B, the journals of which are supported in bearings inserted in slots or recesses cut or formed in the bottom of the shuttle, substantially as described.

**70,027.**—W. T. SAWYER, Mobile, Ala.—*Wheel for Vehicles*.—October 22, 1867.—The shoulders of each alternate spoke enter a circumferential groove in the hub and have the ordinary tenon entering a mortise. The supplemental spokes are beveled off on the sides to fit the spaces between the other spokes.

*Claim.*—A wheel provided with spokes D, and supplemental spokes C, having their inner ends confined upon the hub by means of a groove, or its equivalent, substantially as and for the purpose set forth.

**70,028.**—JOHN SCANLAN, Chicago, Ill.—*Construction of Roofing*.—October 22, 1867; antedated October 16, 1867.—The sheets are made of alternate layers of felt and canvas saturated with coal tar and so arranged that two of the edges shall be thinner than the main body, so that the joints of the roof shall not be raised.

*Claim.*—First, so arranging the several layers of material used in forming the strips of felt roofing as to make the edges of said strips thinner than the central portions, substantially in the manner and for the purposes specified.

Second, as a new article of manufacture, the roofing strips composed of the material and arranged in the several layers herein specified.

**70,029.**—JOHN SCANLAN, Chicago, Ill.—*Roofing Fabric*.—October 22, 1867; antedated October 16, 1867.—The layers are placed together so as to leave two thin edges.

*Claim.*—As a new article of manufacture roofing composed of two layers of saturated felt and one layer of dry felt, arranged as and for the purposes specified.

**70,030.**—JOHN SCANLAN, Chicago, Ill.—*Felt Roofing*.—October 22, 1867; antedated October 16, 1867.—Explained by the claim.

*Claim.*—As a new article of manufacture roofing material manufactured in strips and composed of three layers of saturated felt, arranged as and for the purpose specified.

**70,031.**—EDWARD GEORGE SCOVIL, St. John's, N. B.—*Protecting the Heated Parts of Furnaces*.—October 22, 1867.—The exposed metallic parts are chambered for the passage of water from a reservoir above the furnace. The water flows from the reservoir through pipes near its bottom, and is returned into its upper part, the current being kept up by the heating of the water.

*Claim.*—Protecting metallic and other surfaces from the effect of the heat by the circulation of water when the circulation is caused by the heat, and in the manner as substantially herein shown and described.

**70,032.**—BRADFORD SHIRLEY, Moravia, N. Y.—*Hay Raker and Loader*.—October 22, 1867.—The hay is gathered by rake teeth and then taken up by radially reciprocating teeth which are moved by cams to first engage and then discharge the hay.

*Claim.*—First, the revolving frame C, the rake teeth I, moving radially as described, and the arms or teeth *a* combined and arranged as represented and adapted to operate together, substantially as and for the purpose herein specified.

Second, in connection with the above-described frame C the teeth I and *a*, or their equivalents, the cams K L, constructed and arranged as represented.

Third, in combination with a revolving rake wheel or frame C and its several connected parts I J, and cams K L, substantially as represented, the employ-



ment of the yielding rake teeth D adapted to slide on the ground, and the intermediate teeth G, the whole combined and arranged for joint operation, substantially as and for the purpose herein set forth.

**70,033.**—ELIAS SHOPBELL, Ashland, Ohio.—*Slotting Machine*.—October 22, 1867.—A plate of metal is placed between the fixed and movable die plates, and the angular tool driven through the slots to form a similar slot in the plate.

*Claim.*—The punch or chisel D provided with angular cutting lips E, in combination with the die B and hinged guide F, when arranged in the manner and for the purpose described.

**70,034.**—ELIAS SHOPBELL, Ashland, Ohio.—*Lifting Jack*.—October 22, 1867.—The lifting bar has a ratchet rack on each side acted on by two pawls, which alternately raise the bar and fall for a new hold.

*Claim.*—The perforated tubular standard A with the pivoted lever C and cam E, in combination with the slide rack B, pawls D, and spring B<sup>1</sup>, all arranged and operating conjointly substantially as and for the purpose set forth.

**70,035.**—SILAS SLOAT, Morgan, Ohio.—*Horse-shoe*.—October 22, 1867.—The metallic shoe is attached by leather side pieces which clasp the hoof and are secured by thongs.

*Claim.*—The securing the horse-shoe A to a metal flange B, having a vertical portion *e* with a horizontal portion *c* projecting from its inner side or surface, in combination with pieces C of leather, or other suitable material, attached to the portion *e* of the flange, as shown, and the elastic metal strips or bars E E attached to C C and provided with lateral projections or spurs *i*, which pass through C C into the wall of the hoof and are retained therein by the strap F, all arranged substantially as and for the purpose set forth.

**70,036.**—AMROY B. SMITH, Yankton, Dakota Territory, assignor to himself and FRANK M. SMITH, Chicago, Ill.—*Endless Chain Propeller*.—October 22, 1867.—The paddles, which are alternately immersed in and raised from the water, are carried on endless chains which pass around polygonal wheels journaled in a horizontal frame.

*Claim.*—First, polygonal wheels A A<sup>1</sup>, each having an odd number of angles, when so placed in relation to each other that when an angle of one is vertically above the shaft two angles of the other shall be equidistant from a vertical line passing through its shaft, in combination with the endless chain or buckets, in the manner described.

Second, the endless belt D composed of the plates *p p*, constructed as shown, and connected by the hinges *h h* and rods *r r* and bearing the buckets M M, when constructed and operating substantially in the manner and for the purposes specified.

Third, the combination of the belt D and wheels A A<sup>1</sup> in such a manner that in passing over the wheels the hinges *h h* and connecting rods *r r* of the belt shall rest on and be supported by the bars C C, substantially as and for the purposes shown.

Fourth, the connecting bars C C, having the channeled bed in their center and their extremities bent up, substantially as and for the purposes set forth.

**70,037.**—ANTONIO F. SMITH, Ellsworth, Me.—*Ventilator*.—October 22, 1867.—The caloric current strikes on the concave side of a disk, and through the holes of a horizontal and vertical plate, ventilating pipes conduct air into the escape pipe.

*Claim.*—The said ventilator and spark annihilator, made substantially as described, viz: of the box A, the induction and eduction smoke pipes D E, the perforated partitions B C, and the ventilating pipe or pipes E, or with the same and the deflector G, arranged as specified.

**70,038.**—MICHAEL SMITH, Philadelphia, Pa.—*Apparatus for Casting Refractory Metals*.—October 22, 1867.—The molds are contained in an air-tight flask, and the metal is forced into the molds by mechanical pressure by a plunger within a cylinder.

*Claim.*—First, the provision in a mold for casting metals of a plunger K and a separate injecting vessel or cylinder J, having a lining of clay and plumbago,

or other suitable non-conducting material, to be detached in the manner described, and a temporarily closable communication with the molds, substantially as and for the purpose set forth.

Second, the combination of the mold box D, detachable thimble I, injecting cylinder J and plunger K, all constructed, arranged, and operating in the manner and for the purposes explained.

Third, the arrangement of a series of molds having consecutive orifices or gates, a slab or follower B and set screws F, and box D, as and for the purpose set forth.

Fourth, the subject of the clause last recited, when inclosed within a tight chest G, having suitable connection within an air exhaust for the purpose stated.

**70,039.**—D. M. SOMERS, Brooklyn, N. Y.—*Button*.—October 22, 1867.—The button is placed over the eyelet hole, and the shank of the disk is passed through the cloth, and enters the button socket, which is spread by the eyelet piercer.

*Claim.*—The combination and arrangement of the button, provided with a conical aperture through its shank or neck, the largest diameter of which is at the face of the button, and the disk provided with a hollow central stem to pass into and be expanded within the aperture in the button, all substantially as described and for the purposes set forth.

**70,040.**—W. STEELE and F. HENDERSON, Sistersville, West Va.—*Shank Laster*.—October 22, 1867.—The edge of the leather is engaged by the jaws, and drawn up on the last by the cam lever.

*Claim.*—The combination and arrangement of the pincer jaws, or their equivalents, with the eccentric lever, in the manner described and for the purpose set forth.

**70,041.**—ADOLPH C. STICH, Kalamazoo, Mich.—*Bed Spring Guide*.—October 22, 1867.—The concavo-convex disk is supported by a socket joint on the guide rod, which is surrounded by a spiral spring and slides within a sleeve in the slot. Small metallic strips within the spring prevent rattling when the parts come in contact.

*Claim.*—First, the guide, Fig. 2, with spring F, working through sleeve C, set in slot D, in combination with the socket joint in disk *a*, operating in a manner set forth and described.

Second, the ball joint in disk *a*, operating in the manner set forth and described.

**70,042.**—WILLIAM SWINDELL, Allegheny City, Pa.—*Melting Furnace for the Manufacture of Steel*.—October 22, 1867.—The lower portion of the furnace has an iron shell formed in segments and lined with fire brick, and the upper portion has separate support so that the lower portion may be taken out for repairs.

*Claim.*—First, constructing melting furnaces for the manufacture of steel, with iron casing or shell, lined with fire brick, substantially as and for the purposes hereinbefore described.

Second, the use, in combination with the iron casing or shell of steel furnaces, of supports for upholding the upper portion of the brick lining while the lower portion is removed or repaired, substantially as hereinbefore described.

Third, the air holes *i i* around the grating at the bottom of steel furnaces, to allow the air to enter between the grate bars all around, for the purpose of equalizing the combustion of the fuel within the furnace.

**70,043.**—DEXTER SYMONDS, Lowell, Mass.—*Vapor Burner*.—October 22, 1867.—The liquid passes through the inner of two concentric tubes, which contain a wire to insure even flow of oil. The oil passes through an evaporating chamber, insulated by a cork from the pipe. From this chamber the gas passes to the receiving globe, from which it issues in small jets for burning.

*Claim.*—First, a gas generating and gas burning lamp, constructed and arranged to operate substantially as and for the purpose specified.

Second, the insulator *f*, arranged and applied substantially as and for the purpose set forth.

Third, the arrangement of the tubes or pipes G and *b*, whereby the fluid is protected from the action of external heat, substantially as set forth.



**70,044.**—L. H. TEARS, Troy, Pa., assignor to himself and THEODORE HATFIELD, Scranton, Pa.—*Horse Hay Fork.*—October 22, 1867.—The hay is sustained by the hooks, which project one on each side, and are retracted to discharge the hay by a cord passing over a sheave, and attached to a bell crank lever, which operates upon the upper end of the hook arms.

*Claim.*—The combination of the hooks A and B with blade D and crank lever, when arranged, constructed, and connected together substantially as and for the purpose described.

**70,045.**—ALOIS THOMA, New York, N. Y., assignor to himself, SAMUEL BROMBERG, and ARTEMUS W. WILDER, same place.—*Kiln for Roasting Iron Ores.*—October 22, 1867.—The ore is by the heated gases discharged from the smelting furnace. The gases are mixed with air and discharged within the kiln; the ore is desulphurized by the application of hydrogen derived from the decomposition of steam in the furnace. No ordinary fuel is used.

*Claim.*—First, the arrangement of the channels *a b* and *e* within the kiln A B, for conducting gas and air to the ore, substantially as herein shown and described.

Second, the perforated pipe *e*, when arranged in the lower part B of the kiln, in combination with the channels *d d* made as set forth.

Third, the process herein shown and described of roasting ore, by means of gases discharged from distant fires of any kind of fuel, as described.

Fourth, the process herein shown and described of desulphurizing the ore, while roasting the same, by conducting water into the pipe *e*, whereby the use of the steam boiler is dispensed with, and by combining the steam produced from the water with atmospheric air, as and for the purpose set forth.

**70,046.**—ALOIS THOMA, New York, N. Y., assignor to himself, SAMUEL BROMBERG, and ARTEMUS W. WILDER, same place.—*Furnace for Smelting Iron Ores.*—October 22, 1867.—The ore may be drawn off from either of two sides, one leading to a furnace for further treatment, and the other to the pig bed. The gases escaping from the fuel and ore are collected and conducted to a roasting furnace.

*Claim.*—First, arresting the gases arising from smelting furnaces, so that they may be used for the roasting or some other process, substantially as herein shown and described.

Second, providing a smelting furnace with two discharge channels D D, having suitable dam stones E E, substantially as and for the purpose herein shown and described.

Third, the channels *b b*, when arranged in a smelting furnace, to retain and carry off the gases, as set forth.

Fourth, the shoulder *a*, when formed in the charge chamber of the furnace, in combination with the channels *b b*, all made and operating substantially as and for the purpose herein shown and described.

Fifth, the channels *b b* in a smelting furnace, when combined with the channels *e*, blocks or doors *d*, and chimneys *e*, all made and operating substantially as and for the purpose herein shown and described.

**70,047.**—ALOIS THOMA, New York, N. Y., assignor to himself, SAMUEL BROMBERG, and ARTEMUS W. WILDER, same place.—*Furnace for Reducing Iron Ores.*—October 22, 1867.—The ore being placed in the chamber the fire is started. The gases from the fire arise in the channels and are mixed with sufficient air to aid their combustion and to make a proper blast. The unburnt portions of the gases are heated about 1,200° to 1,400° Fah., and entering the chamber at the end of the channels reduce the ore. When the lower portion of the ore is reduced the grate is inserted through openings in the side of the furnace, and the plate is drawn out so as to discharge the reduced portion of the ore.

*Claim.*—First, reducing iron ore by means of gases produced from fires, the fuel of which is not in contact with the ores, substantially as and for the purpose herein shown and described.

Second, the arrangement of the structures A and C, connected by channel *d* and *e* and with air blasts *h*, substantially as herein shown and described.

Third, the arrangements in the lower part of the tube A of the sliding grate or plate *f* and removable or sliding bottom *g*, all made as described.

**70,048.**—ALOIS THOMA, New York, N. Y., assignor to himself, SAMUEL BROMBERG, and ARTEMUS W. WILDER, same place.—*Furnace for Melting and Purifying Steel.*—October 22, 1867.—The pan and linings of the oven are made of fire brick, coated with a concentrated solution of salt before burning. The flame after passing through the oven enters the air-heating chamber, which is supplied with zigzag lines of pipe that conduct the blast to the fire. The steel to be molten is placed in the pan and covered with a thin layer of fluid dross to protect it from gases accompanying the flame.

*Claim.*—First, smelting steel in an open pan, by blowing a purified flame over the surface of the steel in the pan, substantially as herein shown and described.

Second, the pan *l*, in which the steel may be smelted, is placed, when said pan is made in sections, so that it can be easily inserted and removed through the narrow doors of the furnace, substantially as herein shown and described.

Third, connecting the smelting oven C with the air-heating chamber E by means of a chamber *b*, so that the air pipe *n* is heated in the chamber D and not in the oven C, substantially as and for the purpose herein shown and described.

Fourth, so arranging a furnace for smelting steel that the steel can be tested and treated during the smelting process, substantially as herein shown and described.

Fifth, the chambers C D, and E, when connected by channels *a* and *b*, and when combined with the reservoir *i*, blast channel *j*, pan *l*, and pipe *n*, all made, arranged, and operating substantially as and for the purpose herein shown and described.

Sixth, making the blast channel *j* wider at its lower end, and arranging it obliquely in the furnace, substantially as and for the purpose herein shown and described.

**70,049.**—A. THOMA, Sr., Piqua, Ohio.—*Tools for Jeweling Watches.*—October 22, 1867.—The jewel being laid in its bezel, the burr which has been raised around its seat is closed in upon it by a punch with a conically-recessed face.

*Claim.*—The tool B, for closing or setting jewels in watch plates, consisting of the round, hardened, cup-shaped joint C, substantially as herein shown and described.

**70,050.**—M. L. THOMPSON, Flemington, N. J., assignor to himself and JOHN P. RITTENHOUSE, same place.—*Barrel Head.*—October 22, 1867.—The head is removable without loosening the hoops. When placing the head in position the side segments are first put in, then the sections, and then the blocking piece, which has flanges to keep it from falling in or out. The reverse order of operations removes the head.

*Claim.*—The blocking piece *e*, formed as set forth, in combination with the sections *e e* and *d d* composing the head, as and for the purposes specified.

**70,051.**—C. R. TOMPKINS, Rochester, N. Y.—*Mortising Machine.*—October 22, 1867.—The automatically-reversing chisel stock retains a fixed position upon its axis until the chisel is withdrawn from the timber, when it is reversed by the extreme downward movement of the treadle.

*Claim.*—The arrangement of the adjustable spring rod E, lever D, reversing scroll collar R, collared sleeve S with its projections *i*, locking bar *y*, and the spring catch *t*, substantially in the manner and for the purposes herein shown and described.

**70,052.**—JOHN L. WAITE, Burlington, Iowa.—*Telegraph Insulator.*—October 22, 1867.—The shank of the cup has a sleeve of insulating material, and the shank of the hook is imbedded in a mass of insulating material within the cup.

*Claim.*—The combination of the cup A, having shank B and hook C, or its equivalent, when the latter is insulated from the former, and the shank of the former coated with gutta-percha or any other suitable insulating medium or material, substantially as herein described, and for the purpose specified.

**70,053.**—WILLIAM WEDDINGTON, Alexandria, Ind.—*Safety Stirrup.*—October 22, 1867.—The foot



rest is pivoted, so that in case of an accident the rider's foot is thrown out of the stirrup.

*Claim.*—The foot bar C, pivoted at *a*, in the ends of the bows A, and resting upon the projecting foot bar B, and provided with a bow A' whose upper curved end presses against the head of the stirrup when the foot is placed therein, as herein set forth, for the purpose specified.

**70,054.**—HIRAM B. WELLMAN, Indianapolis, Ind.—*Composition for Treating Burning Fluid.*—October 22, 1867.—To 40 gallons of hydrocarbon oil with a gravity of about 60° B. is added soda ash, 3 pounds; gum arabic, 1 pound. The treatment is to render the oil non-explosive and its light more brilliant.

*Claim.*—A composition of soda ash, or Epsom salts, with gum-arabic or gum-tamarack or white-pine gum, and with or without alum or gum camphor, for mixing with and dissolving in carbon oil, benzine, or other hydrocarbon burning fluids, for the purposes substantially as hereinbefore set forth and described.

**70,055.**—GEORGE E. WEST and WM. R. CUNNINGHAM, La Fayette, Ind.—*Carpet Fastener.*—October 22, 1867.—The upper section of the hinged stirrup is attached to the base. The lower section has a catch that lays hold of the carpet and is with it forced into position, where it is retained by screws.

*Claim.*—The combination of the strips B and C with the tongue D, all arranged with the base A, as described, for the purpose specified.

**70,056.**—SAMUEL WHELOCK, Conway, Mass.—*Portable Vehicle.*—October 22, 1867.—The floor is hinged transversely at its midlength, so as to bend together for packing into small compass. The bows close together like leaves, and stow between the rails of the body.

*Claim.*—First, so constructing a vehicle for ordinary purposes of conveyance as to be enabled to dismember or fold or reduce in bulk such wheeled vehicles, for purposes of packing for transportation.

Second, the mode, substantially as herein described and shown, of applying the wheels to the carriage; that is, by means of the arms *ll* pivoted at one end to the seat or body of the carriage and supported at their free ends by the extremities of the spring *n*.

Third, applying the spring of a vehicle or carriage to its body in such manner as to serve the purposes both of a spring and as a means of confining the wheels to the carriage and allowing of their being readily removed therefrom.

Fourth, combining the dasher or foot rest of a vehicle to its seat or body in such manner as to allow of its being turned inward upon or over such seat, essentially as before explained.

Fifth, the construction and application of the top of a vehicle in such a manner as to permit of its being lowered and folded within or upon the seat of such vehicle.

Sixth, the peculiar construction and arrangement, as well as the application, of the top *o* of the carriage, such consisting of the braces *p p*, swinging feet or supporters *t t*, bows *u u* and *v v*, and straps or bands *w w*, substantially in manner and for the purposes as before set forth.

Seventh, the peculiar construction and combination with the dasher or foot rest *b* of the pole *e*, as consisting of the foot *f* and handle *g*, in manner and to operate as specified.

**70,057.**—R. WHITE, Decatur, Ill.—*Cord Stretcher.*—October 22, 1867.—The cord enters a curved slot in the supporter head, and is held down by curved hooks. The supporters are placed along between the fixed end of the cord and the windlass.

*Claim.*—First, the windlass B supported in the frame A, in combination with the supporter H, when the same are constructed, arranged, and combined substantially as described, for the purposes set forth.

Second, the hooks *e*, in combination with the support H, as and for the purposes described.

**70,058.**—J. B. WICKERSHAM, Philadelphia, Pa., assignor to E. D. B. WICKERSHAM, same place.—*Lubricator.*—October 22, 1867.—A hollow standard rising from the journal box has a cup in which the neck of the glass oil-reservoir is secured by cement.

The oil rises in the bent capillary conductor and passes down the central tube to the journal.

*Claim.*—First, securing the glass fountain to the metallic socket, and in the manner specified.

Second, a movable stem *e*, constructed as set forth, in combination with the glass fountain and metal socket *g*, as set forth.

Third, the wire covered with fibrous material and applied, in the manner specified, to a lubricator, for the purposes set forth.

**70,059.**—J. D. WILBER, Poughkeepsie, N. Y.—*Harvester.*—October 22, 1867.—The machine being drawn forward, the gravitating pawls engage the teeth of the ratchet and motion is communicated to the cutter bar. When the machine is backed, the teeth of the ratchet slip past the pawls without actuating the cutter bar.

*Claim.*—The combination of a ratchet with free or independent pawls, one or more, arranged so as to operate; that is to say, engage with and disengage themselves from the ratchet by virtue of their own gravity only, substantially as set forth.

**70,060.**—J. NEWTON WILLIAMS, JR., St. Paul, Minn.—*Grain Separator.*—October 22, 1867.—The fore end of the shoe is supported by a hook upon a shaft rocked by an eccentric on the fan shaft. This vertical shaking is communicated to the bottom board of the hopper, which is adjustable by a rod extending out to the front of the hopper. The chute board over which the clean grain is discharged from the separator is hung to the frame, and, receiving horizontal oscillation from the shoe, communicates a shaking motion to the screen.

*Claim.*—First, adjusting lever D<sup>3</sup>, in combination with the staples *d*, or their equivalents, to permit an independent motion of the feed board, substantially as described.

Second, imparting a shaking motion to the feed board D<sup>1</sup> from the shoe, substantially as described.

Third, the supporting hangers *f*, in combination with the chute board F, substantially as and for the purpose set forth.

Fourth, the lever E<sup>1</sup> actuated by the shoe and imparting a lateral vibration to the chute board F, substantially as described.

Fifth, the conveying eleats F<sup>2</sup> F<sup>3</sup>, arranged as described, on the chute board, to discharge the grain in a concentrated body.

Sixth, the tappets or knockers S S pivoted to and actuated by the chute board and confined below their pivots so as to jar the screen, substantially as set forth.

Seventh, the combination of the connecting rod M with the eccentric N on the fan shaft and the rock shaft L, whereby the front end of the shoe is suspended, substantially as described.

Eighth, the combination with the feed board D<sup>1</sup> of the fingers or teeth D<sup>5</sup>, substantially as and for the purpose set forth.

**70,061.**—JAMES WIXTED, Port Carbon, Pa., assignor to himself and H. K. NICHOLS, Pottsville, Pa.—*Railway Frog.*—October 22, 1867.—The metallic strips are bolted to the plate on each side of the point, one strip fitting accurately between each rib and the point, so that the lateral strains may be resisted by the strong ribs instead of being communicated to a plate so weakened by a recess as to superinduce its fracture.

*Claim.*—The steel point *d*, confined to the plate A of a frog and between the rails or ribs *b* and *b'* of the same by the wrought-iron or steel strips *m m*, all substantially as and for the purpose herein set forth.

**70,062.**—G. C. WRIGHT, Le Roy, Ohio.—*Apple Corer and Slicer.*—October 22, 1867.—The central tubular core-cutter has a series of radial knives to cut the apple in segments, and is actuated by a follower brought down on it by a lever.

*Claim.*—In combination with the slicing device, the follower C, vertical spring *e* surrounding such follower, and the lever E hung to the post upon the bottom A, all arranged as described, for the purpose specified.

**70,063.**—EDWIN ALLEN, Norwich, Conn., assignor to ALLEN MANUFACTURING COMPANY, same place.—*Mechanical Movement.*—October 22, 1867.—The gear wheels are of irregular form and are adapted to



transmit an equal relative rotation to two press cylinders, one of which has the required number of straight surfaces and the other an equal number of convex surfaces, corresponding in length.

**Claim.**—The gear wheel A, constructed with one or more chords *a*, whose ends are connected by irregular sections *c b c*, in combination with the gear wheel D composed of a corresponding number of arcs *d* with irregular connecting sections *e f e*, all as herein represented and described.

**70,064.**—DANIEL ARNDT, Ripon, Wis.—*Washing Machine*.—October 22, 1867.—The large corrugated roller rotates above the series of small rollers which are suspended on the elastic frame in the suds box.

**Claim.**—First, the levers E E, pins *d d*, and spring *e e*, with the roller D and its extended axle, as and for the purpose set forth.

Second, the levers E E, pins *d d*, springs *e e*, and roller D, used in combination with the box A provided with a cover F, for the purposes specified.

**70,065.**—ALONZO C. ARNOLD, Norwalk, Conn.—*Machine for Crossing Bats for Felting*.—October 22, 1867.—The horizontal, endless belts contain diagonally-inclined sharp teeth that take hold of and support the transverse bat as it proceeds from the doffer comb in its passage across the fibrous bat, that travels longitudinally from the cylinders of the carding machine. The fiber is thus straightened out.

**Claim.**—The arrangement of the series of traveling endless toothed bands A and dividing fallers F, or their equivalents, in the manner as and for the purpose described.

Also, in combination with the arm E and levers N, slotted vibrating lever G, rotating arm H and pin I, as and for the purpose set forth.

**70,066.**—JEAN F. BADOYE, New York, N. Y.—*Hat Felting Machine*.—October 22, 1867.—The swinging "hand" is fitted to the press and works the rolled felt in a manner similar to the hand process. The worker swings on a rock shaft above, and pendulous arms and weights aid in maintaining the motion.

**Claim.**—The workers *l* mounted on arms that pass through mortises in the rock shaft *f*, in combination with the kettle *b* and inclines, for operating in the manner specified upon a roller containing the materials to be felted.

**70,067.**—HENRY BARTH, Cincinnati, Ohio.—*Printing Press*.—October 22, 1867.—The inking table has a pendent yoke embracing a rotating cam whose eccentricity is adjustable to regulate the lateral reciprocation of the table according to the degree to which it is desired the variously colored inks, in longitudinal strips on the table, should blend. The frisket has a motion perpendicular to the platen face, being raised by a cam and depressed by spiral springs surrounding its corner guide pins. The roller frames are eccentrically journaled on the main shaft to ease the pressure upon the rollers when passing over the most salient portions of the ink surface.

**Claim.**—First, the provision of the ink table or surface I J J' arranged to admit of a greater or less reciprocation transversely to the path of the inking rollers by means of the compound adjustable cam G G', or its equivalent, in manner substantially as set forth.

Second, in combination with the slotted ink table I J J', and inking rollers P P' P'', the intermittent roller or shifter K, applied and operated substantially as and for the purpose explained.

Third, the arrangement of the frisket Z, screw pins *z*, springs *z'* and cams *t t'*, or their equivalents, for the purpose set forth.

Fourth, the eccentric journaling of the roller frames D upon the shaft B, for the purpose stated.

**70,068.**—FREDERK BAUSCHLEKER and BARNET VANFLEET, Washington, D. C.—*Pump*.—October 22, 1867.—The valves have free action in their slotted attachments to allow the passage of sand and gravel. The perforated box allows the return of obstructions that insinuate themselves between the box and cylinder.

**Claim.**—First, the pump-box B having a smooth exterior and provided with perforations *c c c*, and in-

ternal annular grooves *a a a*, substantially as and for the purpose specified.

Second, the combination of the valve having the two leaves and projections with the vertical slots or grooves *i i* in the interior walls, substantially as and for the purpose described.

**70,069.**—ALFRED G. BLACK, Wooster, Ohio.—*Car Replacer*.—October 22, 1867.—When the cars are displaced from the track the bed is placed at such an angle that the cars may be drawn along the attached rails onto the track.

**Claim.**—The shifting rail E, when provided with the bolts *g*, in combination with the bed piece C and slab rail H, substantially as and for the purpose set forth.

**70,070.**—GEORGE F. BROCK and ELI BRONDIGE, Davisburg, Mich.—*Combined Land Roller and Plaster Sower*.—October 22, 1867.—The distributor is actuated by endless chains from the driving wheels, and has a series of circular disks attached to it by diagonally-arranged wires. A slide below the hopper confines the plaster when it is not required to be sown. The driver can adjust the rollers to suit the ground by action on the treadles which connect with the bearing bar.

**Claim.**—First, connecting the inner ends of the rollers C C to the frame A, by means of the L-shaped metal bars L L and link S, in the manner and for the purposes set forth.

Second, the arrangement of the frame A with the rollers C C, bars L L, arms K K, ropes or chains *m m*, and pulleys *o o*, in manner and for the purposes set forth.

Third, the plaster distributor G, constructed as set forth, and used in the hopper E, with slide H, when said hopper is connected to the rollers C by means of the pulleys *a* and *d*, with their chains *b* for operating the same, as specified.

**70,071.**—ALFRED BROWN, HORATIO D. WORCESTER and ABRAHAM M. GRISWOLD, Ganier, Ill., assignors to themselves and B. F. GRAY, same place.—*Guard Finger for Harvesters*.—October 22, 1867.—The supplementary steel plate is used as a preservative of the edge and to facilitate re-sharpening and replacing.

**Claim.**—The detachable steel plate B, provided with the flanges *e e*, either with or without the sickle edges, substantially as described and for the purposes set forth.

**70,072.**—FRANKLIN H. BROWN, Chicago, Ill., assignor to himself, EDWARD F. PENGEOT, and SAMUEL H. FLERSHEIM, same place.—*Machine for Making Baskets*.—October 22, 1867.—The skeleton of a top or bottom is clamped to the shaft by set screws. The end of the filling is fed through the apron. Motion is applied to the driving shaft which rotates the skeleton. The pad of the apron is vibrated by the action of the eccentric wheel that rests upon the ring, causing the rods to vibrate alternately above and below the filling which is introduced between them.

**Claim.**—First, the arrangement of forms E, radiating from the shaft B, in combination with the packing device O, as and for the purposes specified.

Second, the arrangement of ring D, in combination with cams H and G, slides *x*, and rods Q, as and for the purposes set forth.

Third, the arrangement of cup Y, in combination with shaft B and rods *o*, as and for the purposes specified.

Fourth, in a machine for weaving baskets, the arrangement of arm M, shaft B, and set screw *m*, as and for the purposes set forth.

Fifth, in a machine for weaving baskets, the vibrating apron P', as set forth and for the purpose specified.

Sixth, the adjustable nut N, in combination with the rods O and Q, as and for the purposes set forth.

**70,073.**—NATHANIEL E. M. BURR and WILLIAM MARTYN, Pawtucket, R. I.—*Machine for Hulling and Scouring Wheat*.—October 22, 1867.—The rough-surfaced cone rotates reversely in the rotating, conical screening cylinder. The grain to be hulled or scoured is fed in between the cone and cylinder. The cleanings are drawn by the forced current of air cre-



ated by the suction fan, while the clean grain is discharged by the endless screw.

*Claim.*—In combination with the cone and screening cylinder, the former running inside of the latter and made adjustable in relation to it, and both inclosed in a box or case and revolving in opposite directions therein, the suction fan on the exterior of said box or case and drawing the dust, hulls, &c., from its interior through closed passages while the cleaned grain by its greater specific gravity is separated and passed off through other avenues, substantially as herein described and represented.

**70,074.**—JOHN M. CAYCE, Franklin, Tenn.—*Watchmaker's Tool.*—October 22, 1867.—The pliers are for rectifying and re-shaping the eogs, and are guided by an adjustable plate. The eog is grasped between the blades while being pressed into the shape required.

*Claim.*—The instrument above described, having blades *a a*, the guide B, and the gauge screw C, substantially as and for the purpose specified.

**70,075.**—H. M. CURTIS and A. WORDEN, Ypsilanti, Mich.—*Self-Adjusting Whip Holder.*—October 22, 1867.—The holder socket is divided diametrically; the upper ends are made to spring in to hold the whip.

*Claim.*—The shape and construction of the whip holder and the connection of the two sectional halves by hinges or joints in such a manner as to hold the whip when inserted closely and firmly by clasping the same at the top and bottom of the holder at the same time; the holder being formed of metal, cast or pressed into proper shape, substantially as and for the purpose set forth and described.

**70,076.**—JEREMIAH DEAN, West Roxbury, Mass.—*Metallic Pavement.*—October 22, 1867.—The blocks are made with counterpart projections and cavities to suit each other, with dovetail key blocks securing the whole.

*Claim.*—The construction and arrangement in all its parts of a metallic pavement, as described.

**70,077.**—GEORGE DEWEY, Blooming Valley, Pa.—*Water Back and Grate of Cooking and Heating Stoves.*—October 22, 1867.—Explained by the claims and illustrations.

*Claim.*—First, a cook stove provided with a water and steam jacket around the sides, back and bottom of the fire box, substantially as and for the purpose described.

Second, the combination of the hollow grate bars J with the water and steam jacket, as described.

Third, the heating pipe P, with its bent part I, which latter forms a shelf in the bake oven H, and supplied with steam from the boiler D, arranged and operating substantially as described.

Fourth, the pipe G' P and P<sup>2</sup>, arranged substantially as described, and the latter connected to the steam jacket of the cooking stove, for the purpose of heating the rooms by means of the cooking stove.

Fifth, passing the pipe through which the steam is led into the different rooms in the shape of a coil through the chimney or stove pipe, after leading it around one room and before passing it into the next, substantially as described.

Sixth, the elastic pipe N, attached to either a stop cock on the boiler D or the spout of the tea kettle and leading into the bake oven, substantially as and for the purposes described.

Seventh, the combination and arrangement of the fire box B, pipes F, port G, pipe G<sup>1</sup> G<sup>2</sup> and hollow bake oven H, substantially as and for the purpose described.

**70,078.**—CHRISTOPHER DYER, Jr., and ELLIS DRAKE, Stoughton, Mass.—*Boot and Shoe Heel.*—October 22, 1867.—Explained by the claim and illustration.

*Claim.*—A heel having the following characteristics: a body A, constructed of wrought metal, a cast metal tread C, and screws D, adapted to be applied to a separate shank F, having lug or nut E, whereby the parts are held together independently of any other fastenings, as herein described.

**70,079.**—E. P. EDSTROM, Somerville, Mass.—*Manufacture of Horse Collars.*—October 22, 1867.—

The core roll is made and the leather drawn over it and secured, the forming blocking holding it in position at the stages of the operation.

*Claim.*—The improvement in the manufacture of horse collars by forming a core and applying thereto the roll and body leather upon a system or series of blocks, substantially as set forth.

**70,080.**—N. T. FITCH, Forsyth, Ill.—*Corn Crib.*—October 22, 1867.—The X-formed frame is supported on its lower fork and has its upper one slatted to receive the corn. Tie pieces connect the upper ends and prevent spreading.

*Claim.*—The method or plan, substantially as herein described, of constructing corn cribs, whether the same consist of one single crib, or of two or more united, as shown and described.

**70,081.**—M. B. FOOTE, New England Village, Mass., assignor to himself and E. N. FOOTE, same place.—*Combined Knob Latch and Lock.*—October 22, 1867.—The spring latch is connected to the hub by a flat link chain, and is retracted by turning the hub. The latch is bolted by a sliding block, which is made by the key to enter a cavity in the plate.

*Claim.*—The latch bolt B, having the wide slot herein described, and having in one of the walls of that slot a mortise to receive the bolt of the lock D, substantially as and for the purpose specified.

**70,082.**—WALTER K. FOSTER, Cambridgeport, Mass.—*Washer for Axle Boxes.*—October 22, 1867.—The leather washers are inclosed on all sides but their periphery by annular angle plates.

*Claim.*—The combination and arrangement of one or two metallic annuli or guards or flanged rings with a leather washer, or its equivalent, arranged within said rings, and used on an axle journal in manner as set forth.

Also, the flanged guards, as made with lips on their inner ends and outer circumferences to receive a washer, as specified.

**70,083.**—WM. GOODWIN, Boston, Mass.—*Paddle Wheel.*—October 22, 1867.—Two ranges or series of floats are employed; each two next adjacent floats are arranged in parallel position. The paddles of the two series strike the water alternately, and each paddle coacts with two paddles of the next series to reduce the actual slip.

*Claim.*—Improved arrangement of the floats or paddles of the two series, substantially as described and represented.

Also, the combination and arrangement of the openings *a* in the several paddles or floats with the two series of paddles or floats, arranged together as specified.

**70,084.**—WM. GOODWIN, Boston, Mass.—*Paddle Wheel.*—October 22, 1867.—The two series of paddles are obliquely attached to the side frames of the wheel, so that the floats of one series cross the adjoining floats of the next series diagonally. Both series at their point of connection are secured to one common radial arm.

*Claim.*—The wheel or combination as composed of the three frames A B E, made as described, and of the two series of paddles C D, having the paddles of each series arranged obliquely in the wheel and diagonally, and in other respects with regard to those of the other series, as explained, and also having each pair C D of such paddles united at their middles to one of the spokes or arms of the intermediate frame E, the whole being substantially as specified.

**70,085.**—WM. A. GOVERN, Norwalk, Conn.—*Process of Removing Burrs and other Substances from Wool.*—October 22, 1867.—This process does not remove the burrs, but renders them so brittle that they crumble, and are removed when subjected to a willowing or burring machine. The wool is immersed in a solution of 18 pounds of guano and 20 pounds of soda ash in 40 gallons of water, and subsequently in a solution of 50 pounds of salt and 3 quarts of muriatic acid in 800 gallons of water.

*Claim.*—Treating wool for the removal of burrs and other vegetable matter therefrom by process substantially as herein described and set forth.



**70,086.**—D. M. GREENE, Washington, D. C., assignor to MARIA N. GREENE, same place.—*Steam Generator Indicator*.—October 22, 1867.—The high and low pressure indicators being adjusted, the steam enters the tube, and if from exhaustion of the boiler the steam is heated to a high temperature, it elongates the thermostatic tube, which raises the lever above, and by its connections opens the valve and sounds the alarm whistle.

*Claim.*—First, the combination of steam pipe P, stationary rod R, levers L L' and L'', connected by the rods R' and R'', arranged substantially as described.

Second, the steam pipe P, stationary rod R, levers L and L', valve v, and the whistle W, arranged substantially as set forth.

**70,087.**—GEORGE HADFIELD, Cincinnati, Ohio.—*Surgical Cup*.—October 22, 1867.—The surgical cup has a broad, impervious flexible lip of prepared caoutchouc, causing atmospheric exclusion without deleterious pressure and consequent constriction of the capillaries.

*Claim.*—The arrangement of a flanged cup A C and grooved, broad, and flexible lip D E, as set forth.

**70,088.**—GEORGE HADFIELD, Cincinnati, Ohio.—*Surgical Cup*.—October 22, 1867.—The edge of the cup is covered by a rubber lip to form a soft and airtight packing when a partial vacuum is formed within the cup.

*Claim.*—The provision for surgical cups of the broad, flexible, and impervious lip E e, formed and adapted to operate in the manner described.

**70,089.**—F. A. HANNAFORD, New York, N. Y.—*Safety Bridles*.—October 22, 1867.—The supplementary straps are attached to the pole strap of the bridle, pass through links attached to the rings of the bit and terminate in rings for the attachment of the reins. Adjustable stops are secured to the straps and regulate its play.

*Claim.*—First, the supplemental straps C, arranged upon the bridle A, and in relation with the bit B thereof, substantially as and for the purpose specified.

Second, the stops f\*, made adjustable upon the supplemental straps C, substantially as set forth, whereby the force exerted upon the bit may be limited and rendered uniform, as described.

**70,090.**—JAMES L. HENDERSON, Covington, Ky.—*Framework for Fire-places*.—October 22, 1867.—The side and head trimmers are constructed of a single joist, dispensing with the trimmer arch and substituting a horizontal frame from the head trimmer to the breast of the chimney, which is supported in the tail joists. The metallic shoes are bolted to the ends of the tail joist and inserted in the brick work of the chimney.

*Claim.*—First, so arranging the frame for supporting the hearth that the latter shall rest upon a horizontal flooring E, supported upon joist extending entirely across the hearth space either longitudinally or laterally, substantially in the manner set forth.

Second, framing around the hearth and fire-place of buildings with single head and side trimmers and extending the joist under the hearth so as to dispense with the trimmer arch and brick arch, substantially as set forth.

Third, the mode of connecting the tail joist C with the breast of the chimney by metallic shoes F, substantially as set forth.

**70,091.**—J. WILSON HODGES, Baltimore, Md.—*Horseshoes*.—October 22, 1867.—The chalk as a dovetail shank which enters a similar opening in the shoe. When the shank is in, a key is driven beside it to render it tight, and another key driven through a slot in the calk to keep the other key in position.

*Claim.*—The combination with the calk B b, as a means for attaching the same to the shoe, of the wedge C and pin d, substantially as described.

**70,092.**—NANNIE W. HUNTER, Elizabeth City, N. C.—*Manufacture of Soap*.—October 22, 1867.—Composed of "Colgate" soap, 6 lbs.; sal soda, 6 lbs.; rosin,  $\frac{1}{2}$  lb.; borax, 1 oz.; laundry blue, 30 grains; spirits of ammonia, 1 oz.; water, 12 quarts.

*Claim.*—The above described improvement in making "hard soap."

**70,093.**—B. ILLINGSWORTH, Freeport, Ill.—*Animal Trap*.—October 22, 1867.—The box ends are open, and the top wire grated. The floor has a trap door which is freed by a pull upon the bait wire and depressed by the weight of the rat, which slides down into the barrel on which the trap is placed. The trap door is weighted so as to be self-setting.

*Claim.*—The arrangement of the box A, as constructed with the door C, plate J, spring o, bar F, and rods H and I, the several parts operating in the manner and for the purpose set forth.

**70,094.**—GEORGE C. JAMES, Cincinnati, Ohio.—*Lamp Shade Supporter*.—October 22, 1867.—The supporter is bent to fit around the chimney, and the radial loops support the shade.

*Claim.*—A lamp shade supporter A, constructed with wings or projections a of one continuous piece of wire, as described and for the purpose set forth.

**70,095.**—NATHAN L. JANNEY, Philadelphia, Pa., assignor to himself and HORATIO I. KURTZ, same place.—*Butter Stamp*.—October 22, 1867.—The edges of the metallic mold close past each other and are expansively adjustable to the size of the print. The mold engages in a grooved board at bottom and a wooden print impresses the top of the pat.

*Claim.*—The expansive mold A, when constructed and arranged as described and for the purpose set forth.

**70,096.**—GEORGE H. KIRNEY, Cleveland, Ohio.—*Washing Machine*.—October 22, 1867.—The weighted cords bearing the blocks are adjustably regulated over the grooved rollers, and an open, slotted cylinder rotates above.

*Claim.*—First, the combination of the cords I with the blocks c, when constructed and arranged in relation to each other so as to be interwoven or interlocking, forming a continuous or entire connected apron, substantially as and for the purpose set forth.

Second, the arrangement of the apron C, in combination with the cylinder B, in the manner and for the purpose substantially as specified.

**70,097.**—JOHN E. LAYTON, New Wilmington, Pa.—*Fence*.—October 22, 1867.—The posts are attached in the mortises of the sills by keys and the rails are supported on the cross cleats attached to the posts.

*Claim.*—The posts A and B, provided with supports e and i for the rails 3, said posts being secured to the base C C' by means of keys 1 and 2, the whole being constructed, arranged, and operating substantially as herein described and for the purpose set forth.

**70,098.**—JOSEPH H. LEWIS, Duxbury, Mass.—*Wheel and Axle for Carriages*.—October 22, 1867.—The wheel hub and journal box are slipped on to the journal and turned till the lugs connect; the plate is then turned until the head of the spring engages in the depression in the lug, by which the lugs are locked together securing the attachment of the wheel.

*Claim.*—First, the radial flanges H, in combination with the plate d, the lugs m, and the wheel hub, substantially as described.

Second, the arrangement of the spring f, in combination with the plate d and the wheel hub, substantially as described.

Third, forming the band n, together with and in one piece with journal box, substantially as described.

**70,099.**—THOMAS LYONS, Brooklyn, N. Y., assignor to himself and JOSEPH B. KING, same place.—*Curtain Fixture*.—October 22, 1867.—The arm of the spiral spring that is secured on the stud engages the lug and actuates the sliding plate.

*Claim.*—The tension spring constructed as described and arranged in relation with the stud m, the slide C, and the frame A, substantially as and for the purpose specified.

**70,100.**—JOSEPH L. MANLOVE, Connersville, Ind.—*Seed Planter*.—October 22, 1867.—The seed is placed in the hopper on the rear of the furrowing runners, and is dropped by the slide that runs longitudinally with the hopper, having a reciprocating motion communicated by the lever.



*Claim.*—First, the combination of the furrowing runners A, shovels B, oscillating braces C, lever C', and a hook or other equivalent fastening E, for the same, arranged to operate substantially as set forth.

Second, in combination with the foregoing parts for covering the seed the hoppers K, slide F, with the adjustable openings F' and cross-piece H, arranged to operate substantially as set forth.

**70,101.**—JOHN MARQUIS, San Francisco, California.—*Siphon Propeller.*—October 22, 1867.—The water is drawn up by steam or hot-air jets through a vertical pipe and discharged diagonally into the water beside the vessel, to propel her in either direction.

*Claim.*—The propelling of a vessel by water raised to any height that can be acquired by means of a steam or hot-air siphon or its equivalent, the fall of the water from the height being the propelling power, either by its own weight and velocity or pressure, substantially as described.

**70,102.**—JULIUS H. MEISSNER, New York, N. Y.—*Grate.*—October 22, 1867.—The fresh fuel is supplied below the incandescent mass. The air is passed through the unignited fuel before mixing with the disengaged gas in the furnace.

*Claim.*—First, a grate having a shelf or other equivalent provision arranged in such relation to the lower grate bars as to enable the fresh fuel to be introduced into the grate below the incandescent portion of the mass which is supported upon said lower grate bars, substantially as described.

Second, the curved plate G or any equivalent thereof as a means for directing upward the incandescent fuel which is displaced in the act of introducing fresh fuel, substantially as and for the purpose described.

Third, in a grate in which the fuel is supplied from below, a congeries of curved or straight front grate, joined or attached to a common support at their upper ends, substantially as and for the purpose specified.

**70,103.**—JACOB MILLER, Carrollton, Ohio.—*Car Coupling.*—October 22, 1867.—The spring tumbler rests on the coupling link and keeps it in a horizontal position over the projected hook when coupled. In uncoupling, the lever is oscillated and the pin beneath the link lifts it above the catch.

*Claim.*—First, in the above described coupling device, the pivoted tumbler C, acting independently from the check pieces C', substantially as and for the purposes set forth.

Second, the combination of the pivoted tumbler C, spring plunger D, check pieces C', provided with lever E and pin c', and the movable frame G, acted upon by the spring plunger H, substantially as and for the purposes described.

**70,104.**—JAMES D. MOORE, Grinnell, Iowa.—*Calendars for Watch Cases.*—October 22, 1867.—The movable figured ring is adjusted to the lettered stationary index at the commencement of a month to keep a record of the corresponding days of the week and month.

*Claim.*—A watch case provided with the movable ring  $\alpha$  and stationary ring  $z$ , with their letters and figures, arranged in the manner substantially as and for the purposes specified.

**70,105.**—ROBERT T. MORSE, Cambridge, Ohio.—*Buckle Attachment.*—October 22, 1867.—The buckle is attached by metallic plates riveted together through the leather and slotted to allow the play of the tongue.

*Claim.*—The slotted metal plates A A, constructed as described, for attaching buckles to the ends or sides of straps, and shielding the edges of the leather as set forth.

**70,106.**—GEORGE L. MOWRY, Scott, N. Y.—*Sawing Machine.*—October 22, 1867.—The wood is clamped between the two ratchet bars. The saw is driven by connection to a crank. The clamping bars are forced upon the wood by a lever, which is held down by a ratchet.

*Claim.*—The double ratchet clamps  $a a'$ , when arranged upon the movable table C and operated by the lever  $m$ , whereby wood of uneven widths may be se-

curely held and adjusted to the saw, substantially as set forth.

**70,107.**—G. A. NELSON, Chicago, Ill.—*Card Rack.*—October 22, 1867.—The cards are placed under spring clips on slats which are alphabetically marked and arranged, and which turn in a horizontal plane to expose the cards attached near either edge. The chips are punched in series upon plates of similar length with the slats, to which they are secured by sliding into side-grooved recesses of the slats.

*Claim.*—First, the metal strips D, having the clips  $d$  formed thereon by punching or cutting the latter therefrom, in the manner substantially as shown and described.

Second, securing the strips D, constructed as described, to the slats or case by inserting the edges of the strip into grooves  $f$ , substantially as described.

The turning slats A A, marked by letters of the alphabet and constructed as described, in combination with strips D D and the stationary board E or boards  $n n$ , arranged as described, the whole arranged substantially as herein set forth and for the purposes specified.

**70,108.**—H. B. NORTON, Rochester, N. Y.—*Potato Digger.*—October 22, 1867.—The machine is arranged either to plant or to dig. A double moldboard plow operates to open the furrow and adjustable single moldboard plows on each side serve to throw the earth inward. When used as a digger a scoop and endless apron are used. The main frame rests upon the axle, and is connected thereto by a catch and guide arms, up which it slides when the digging mechanism is raised from the ground; the said action simultaneously disconnects the driving gear of the endless apron.

*Claim.*—First, the combination and arrangement of the frame C resting loosely on the axle, the guide arms  $h$ , the jointed arms  $n$ , the endless apron I, and the levers K and L, the whole operating in the manner and for the purpose herein set forth.

Second, the combination of the catch arrangement  $s t$  with the loose frame C and guide arms  $h$ , operating as and for the purpose specified.

**70,109.**—WM. P. PATTON, Harrisburg, Pa., assignor to himself and THEOS. WEAVER and ISAAC LLOYD, same place.—*Switch.*—October 22, 1867.—Explained by the claim and illustration.

*Claim.*—A lock, so constructed as that the key can only be withdrawn when the bolt is completely thrown, when the same is used in combination with the operating mechanism of a railroad switch, and so arranged in relation to the bolt holes as that the bolt can only be entirely thrown when the switch is in connection with the main track, substantially as set forth.

**70,110.**—JOHN S. PEASLEY, Providence, R. I.—*Machine for Renovating Feathers.*—October 22, 1867.—The sheet-metal cylinder rotates on trunnion bearings. The cylinder is made in sections secured by hooks. The feathers being placed in the cylinder, steam is admitted through the cocks in the tubular arms, which are rotated in the feathers till they are heated and expanded, when the steam cocks are shut and the heated arms rotated until the feathers are dried.

*Claim.*—First, constructing the cylinder for holding the feathers to be renovated, in two parts, with means for uniting and securing the same together, substantially as and for the purpose specified.

Second, combining with a cylinder, for the purpose specified, or an equivalent receptacle, a number of netted openings I, and suitable battens E, or coverings therefor, with suitable means for securing the same, substantially in the manner and for the purpose specified.

Third, the tubular arms, constructed substantially as described, and provided with a number of steam cocks  $f f$ , the whole being arranged with suitable means for introducing steam thereto, and through the same into the cylinder and among the feathers therein, substantially in the manner and for the purpose specified.

Fourth, the steam cock J, in combination with the said tubular arms, and a suitable conducting pipe K, as described and for the purpose specified.

Fifth, connecting one of the tubular arms G to the



shaft, in such a manner, by means of a coupling, or equivalent device, that the said arm may be readily detached from the shaft, as described, for the purpose specified.

**70,111.**—EZRA PECK, Chicago, Ill.—*Cultivator*.—October 22, 1867.—The frame is supported on short runners. The plow beams are attached in front by clevises that work freely on vertical rods. The eveners that is pivoted beneath the rear of the tongue connects by rods with the swing bars to which the whiffletrees are attached.

*Claim.*—First, a framework for carrying and drawing the plows of a straddle-row cultivator, supported on runners, substantially as described.

Second, the frame supported on runners, in combination with two gangs of plows, substantially as specified.

Third, the main frame, supported on runners, in combination with the adjustable and movable beams F and plows Q, substantially as and for the purpose specified.

Fourth, the slotted clevis *m*, provided with an upper and a lower bearing, substantially as specified.

Fifth, the slotted clevis *m*, in combination with the rod N and plow beam F, substantially as described.

Sixth, the combination and arrangement of the angle rod N and clevis *m* with the adjustable brace *k*, for adjusting the elevation of the front end of the beams, substantially as specified.

Seventh, the angle rods N, in combination with the slots *a* and clamps *g*, for adjusting the distance between the ends of the beams, substantially as described.

Eighth, the combination and arrangement of the eveners G, inclined swing bars or levers I, rods J, and elevated, pivoted supports *f*, substantially as specified.

**70,112.**—B. W. PIERCE, New Bedford, Mass.—*Chuck*.—October 22, 1867.—The irregularly-fluted roller rotates in the cylinder, and a sliding jaw beneath is projected by a set screw to secure the tool in the flute of the roller.

*Claim.*—The within-described chuck, constructed and operating substantially as set forth.

**70,113.**—ALFRED S. PHILLIPS, South Boston, Mass.—*Apparatus for Spooling Thread*.—October 22, 1867.—A skein of thread being placed on and around the two rollers, the bars are drawn outward and tighten the skein. The pawls by dropping into the notches dog the bars in place. The hand crank rotates the spool and winds the thread.

*Claim.*—The arrangement, as well as the combination, of the two rollers B D, the frame A, the adjustable bars C C provided with notches or teeth *h* and pawls *i*, as described, the slider E and its guide *k*, and the crank shaft F, the whole being substantially as specified.

Also, the combination of the movable journal *m* with the crank shaft F and its stationary journal *l*, as set forth.

**70,114.**—JOB PHILLIPS, DANL. W. SOUTHWICK, and DAVID A. ARNOLD, Pawtucket, R. I.—*Starting and Stopping Cars*.—October 22, 1867.—The draw bar is connected to a lever oscillatable on the hub of the wheel, and it has a pawl engaging a ratchet on the same, to cause rotation of the wheel when starting. After starting, any slacking upon the draw bar allows the lever to be restored to the starting position by a spring. The lever may be retained in the starting position by a rack and segmental gear, and when starting, is freed to act, and the pawl thrown in position, by a treadle.

*Claim.*—First, combining the draft hook H with the axle of the car by means of a chain gear C, eccentrics A A', and a pawl and ratchet mechanism, substantially as described for the purposes specified.

Second, the combination and arrangement of the slide rod D, under the control of the driver, with the draw bar B and holding catch *k*, substantially as described.

**70,115.**—OLIVER L. PINNEY, Brunswick, Ohio.—*Lifting Jack*.—October 22, 1867.—The pivoted lever rotates the segment wheel, which, engaging in the ratchet bar, elevates the jack.

*Claim.*—The lever D, wheel E, and toothed piece

H, in combination with the link I, substantially as set forth.

**70,116.**—CHARLES P. POINIER, Boston, Mass., assignor to himself and CHARLES O. HORTON, same place.—*Frame for Pictures, &c.*—October 22, 1867.—The hinged back board swings back to give entrance to the interior of the frame.

*Claim.*—First, the combination of the fixed and detachable frames A and E, in the manner and for the purpose substantially as specified.

Second, the combination of the frame E, glass G, and the hinged back board J, when constructed and operating as and for the purpose set forth.

**70,117.**—H. A. V. POST and JEPHTHA GARRARD, Cincinnati, Ohio.—*Apparatus for Burning Hydrocarbons*.—October 22, 1867.—The air for consumption of the oil is forced by blow pipes through the liquid into the combustion chambers above. The steam jet in the mouth of the chimney increases the draft in the furnace.

*Claim.*—The arrangement of a receptacle C for hydrocarbon or other oil or liquid fuel below a furnace or combustion chamber B, in connection with a pipe or pipes, through which air or air and steam are forced through apertures or nozzles situated below the surface of the liquid fuel, and thence through the body of the liquid fuel, substantially as and for the purpose set forth.

**70,118.**—CHARLES C. and JAMES PURINGTON, Bath, Maine.—*Washing Machine*.—October 22, 1867.—The slide bars, combining with the two sets of rails and friction wheels applied to the bars and upper rails, steady and guide the dasher during reciprocating movements imparted to it through the rear connection bar, which moves the dasher to and fro over the series of rollers.

*Claim.*—The combination, as well as the arrangement of the guide bars *g g*, the two sets of rails and their wheels, with the tub, its series of rollers and the dasher and its rollers, the whole being substantially as specified.

**70,119.**—JOSHUA REGESTER, Baltimore, Md.—*Hydrant*.—October 22, 1867.—Through each side of the hydrant case a hole is made in a horizontal plane, coincident with that of the pipe, when the pipe and cylinder are secured in place between the bottom plates. The holes give a choice of four different locations for the pipe, in accordance to the direction taken by the service pipe leading from the main.

*Claim.*—The removable divided bottom *g g*, in combination with the removable section A', applied to a wooden hydrant case, substantially in the manner and for the purposes described.

**70,120.**—D. C. RICHARDSON, Weldon, N. C.—*Cotton and Corn Plow*.—October 22, 1867.—The connecting standard of the handles is secured to the shoe. The deflecting wings from the double share and the shoe spread the soil and cover weeds. The flange cast on the foot of the standard connects and strengthens the share and its wings.

*Claim.*—First, the plate D, cast with the standard, in combination with the adjustable tooth, substantially as described.

Second, the plate D, cast with the standard, in combination with the adjustable wings W W, substantially as described for the purposes set forth.

Third, the shoe S, having in rear of the mold plate a slot *a*, in which wings R R of different sizes and form can be secured, when the same is in combination with wings W W, the whole constructed and combined substantially as set forth.

Fourth, the devices embraced in the foregoing claims, when the same are arranged in the manner described and for the purpose set forth.

**70,121.**—RENEL ROBINSON, San Francisco, Cal.—*Life Preserver*.—October 22, 1867.—The light, wooden float has an air-tight jacket secured in the opening in the middle of the frame.

*Claim.*—The frame A, provided with air-tight compartments and a flexible case for the legs, body, and arms, and having a seat D and opening F, all substantially as described.



**70,122.**—J. F. ROCHOW, New York, N. Y.—*Hoisting Apparatus*.—October 22, 1867.—Two differential cog wheels are attached to a sleeve turning freely upon the crank wrist-pin of the driving shaft. One of these wheels tracks around the inside gear of a hub secured to the frame, and the other wheel engages an inside gear of the hoisting drum.

*Claim.*—The crank shaft C, carrying pinions or cog wheels H I, in combination with the gear E and internal gear K, all constructed and operating substantially as and for the purpose set forth.

**70,123.**—HENRY J. RUGGLES, Poultney, Vt.—*Stone Channeling Machine*.—October 22, 1867.—The gang drills are operated by steam, and move automatically on a track over the rock to be channeled. The air-spring cylinders interpose between the steam and the drills in order to deliver, regulate, and apply the force of the blows upon the rock, either on the surface or to any depth in the channel cut therein.

*Claim.*—First, the employment of an air cylinder S, in combination with drills or cutters, substantially as and for the purpose herein specified.

Second, the combination of an air cylinder or cylinders, one or more drills or cutters, and a truck or carriage moved automatically over the rock or stone to be channeled or cut, substantially as herein specified.

Third, the combination of an air cylinder or cylinders, one or more drills or cutters, steam engine, or other motive power, a truck or carriage, on which the operating parts are mounted, and an automatic device for moving the truck along in either direction, substantially as herein set forth.

Fourth, a drill, or set of drills, composed of single drills of the different kinds of points or cutting parts, substantially as and for the purpose herein specified.

Fifth, in combination with the drill the drill clamp or stock T, constructed substantially as described, so as to enter the channels and serve as a guide and support for the drills therein.

Sixth, the arrangement of the ways Q Q, in which the air cylinders and drills are guided, so as to be adjusted and set, either vertically or inclined, in the planes of the channels, substantially as herein set forth.

**70,124.**—T. C. SACHSE, Chicago, Ill.—*Pessary*.—October 22, 1867.—From the bowl proceeds a tubular stem, whose end is diagonally inclined. This tubular stem is traversed by another stem with a similarly curved end, which may be turned into rectangular position to the other by a key, which is used as a handle in inserting the instrument.

*Claim.*—First, the oblong concave face of the bowl A of a pessary, substantially as and for the purposes described.

Second, the curved part B' of the stem B, forming an automatic means of holding the instrument in position, substantially as and for the purposes set forth.

Third, the auxiliary stem C, with its curved part C', opening d, and square lower opening, moving within the stem B, substantially as and for the purposes described.

Fourth, a pessary, substantially as described, operated by a key D, substantially in the manner set forth.

**70,125.**—LUCIUS M. SARGENT, Worcester, Mass., assignor to W. A. RICHARDSON, HENRY D. WARD, and GEORGE A. GATES, same place.—*Lamp Extinguisher*.—October 22, 1867; antedated October 19, 1867.—The heads of the pivoted wings are made to envelop the wick. They are forced together by a spring, when a catch at the lower end of their operating pins is freed.

*Claim.*—First, the arrangement of the wings e and stems d upon the base plate c, constructed as described, to be placed over the wick tube a, and secured upon the central portion b of the base of the burner, substantially as and for the purpose herein set forth.

Second, the stud or stop e\*, in combination with the wings e, arms d\*, and spring f, substantially as and for the purpose herein set forth.

Third, the combination of the downwardly extending arms d\*, operating the wings e with the spring f and spring catch g, substantially as and for the purpose specified.

**70,126.**—BENJAMIN F. SHERMAN, San Francisco, Cal.—*Grain Elevator and Feeder*.—October 22, 1867.—The grain is carried to the foot of the elevator in boxes on an endless apron. The roller frame is extensible. The boxes are made in sections and have side pieces and end caps which stand mouth inward to insure safety in conveying grain when the apron is inclined from the horizontal.

*Claim.*—First, the elevator feeder described, arranged at the lower end of the elevator, and operated by the gear D, on the lower pulley shaft of the elevating belt, in combination with the gears E F and G, so constructed and arranged that the feeding may be swung around in the arc of a circle, to bring it to the grain to be fed to the elevator.

Second, lengthening or shortening the said feeder, by taking out or putting in the extension pieces H' and H'', substantially as described.

**70,127.**—A. P. SHUTE and J. F. JACKSON, Charlestown, Mass.—*Extension Table Slide*.—October 22, 1867.—The contiguous sides of the bars are connected by metallic strips inclined to the axis of the bars, and which from their position act as slides and prevent the separation of the bars.

*Claim.*—The combination as well as the arrangement of the metallic slips D D' D'', with the grooves E E' and the bars A B C, made substantially as described and for the purpose set forth.

**70,128.**—CEPHAS SMITH, Stoughton, Mich.—*Hanging Taps to Buggies*.—October 22, 1867.—The ends of the bows enter sockets in a pivoted bar which is fixed at any inclination by a thumb screw that traverses a slot in a pivoted plate.

*Claim.*—The bar B and C, constructed and used with the slotted plate G, as and for the purpose set forth.

**70,129.**—ROBERT D. STERLING, New York, N. Y.—*Joint Bit and Check*.—October 22, 1867.—A ring is placed upon the bit on each side of the mouth within the rein rings, and is supported by a strap lying diagonally across the nose. To this strap the overhead bearing rein is connected.

*Claim.*—The straps n, suspended from the top ring e, and connected to the loop ring J, sliding on the linked bit a b c, constructed and operating as and for the purpose described.

**70,130.**—R. R. STEVENS, Mokelumne Hill, Cal.—*Means for Propelling Vessels*.—October 22, 1867.—The paddles are secured to a frame which is connected at one end to an eccentric and at the other to a crank, so that during the reciprocations of the frame it shall continue horizontal. The frame is so arranged that the paddles shall dip down for the effective stroke and shall be raised from the water on the return.

*Claim.*—The combination and arrangement of the eams D D and D' D', with the frames H and G, and cranks F and F', constructed and arranged to operate the paddles P, as described.

**70,131.**—JOHN SWAN, Baltimore, Md.—*Car Coupling*.—October 22, 1867.—The coupling pin is pivoted to a block above the drawhead. The block when thrown forward acts as a counter-weight to sustain the pin in uncoupling position. When the block is thrown back the pin is in acting position and is raised by and drops into the coupling link.

*Claim.*—The drawhead A, as constructed in combination with the trigger or pin C, pivoted within or to the said drawhead and provided with the hinged bar D, the several parts being used and operated as and for the purpose specified.

**70,132.**—D. W. TELLER and W. L. SAVAGE, North Greenwich, Conn., assignors to themselves and W. H. HOAG, N. Y. city.—*Telegraph Insulator*.—October 22, 1867.—The sections slip, one at a time, through the slot into the seat, and are there locked by a partial rotation. The wire occupies a groove in the face on one section.

*Claim.*—The insulator constructed in sections substantially as described, to be inserted in an aperture or bearing in its support, by means of a slot provided in the latter communicating with said aperture or



bearing, essentially as and for the purpose or purposes herein set forth.

**70,133.**—JOSEPH TRAINER, Rural Dale, Ohio.—*Animal Trap*.—October 22, 1867.—The rat entering the outer chamber and nibbling the bait releases the lever, which is operated by the platform and closes the gates. The rat lifting the inner gate in its efforts to escape operates the rods that raise the platform, permitting the lever to reverse its position, and by opening the gates resets the trap. The rat is secured in the inner compartment.

*Claim.*—The combination and arrangement of the chambers A B, gates *a b*, cords *r r*, lever L, vertical hinged rod M, platform D, and connected rods H and *e*, all constructed, combined, and operating together substantially in the manner and for the purpose specified.

**70,134.**—C. S. TREVITT, Washington, D. C., assignor to himself and H. E. WENTWORTH, same place.—*Animal Trap*.—October 22, 1867.—Pressure on the swinging bait box releases the platform which swings and precipitates the animal into the cage beneath. The adjustable weight returns the platform to place when it becomes reset.

*Claim.*—First, the swinging bait box H, having the cover *h'* and the aperture *i*, substantially as and for the purpose specified.

Second, the combination of the adjustable weight *w*, rod R, trap door E, box H, and notched rod *k*, substantially as and for the purpose described.

**70,135.**—WILLIAM TRUBY, Brush Valley, Pa.—*Manure Fork, &c.*—October 22, 1867.—The fork is transformed into a rake, pronged hoe, or grapnel, by turning it on its hinge till the opposite spring catch is engaged.

*Claim.*—The combination of the springs *e* and *g*, provided with catches *f* and *h*, with the hinges *c c'* of the tang *b*, and plate A, of a manure or other fork, said plate being provided with a slot *k*, counter catch *j*, and rib *i*, all combined and arranged substantially as and for the purpose set forth.

**70,136.**—CHARLES M. VAIL, Elmira, N. Y.—*Cooler for Water, Milk, Beer, &c.*—October 22, 1867.—The double-cased pail, the outer case of which is perforated above and below, forms a means of ventilation in the atmospheric cooler.

*Claim.*—In combination with an internal vessel for containing the fluid to be acted upon, an external casing with intermediate air spaces, with a double cover and connecting ventilated cylinder, said parts being perforated and arranged in relation to one another substantially as set forth.

**70,137.**—N. S. VANCE and E. WATKINS, Decatur, Ill.—*Instrument for Cutting Post Holes*.—October 22, 1867.—The bell-shaped tubular cutter incloses a body of earth which is retained till discharged by the plunger after being raised from the hole.

*Claim.*—An instrument for cutting post holes formed by a combination of the tubular cutter A, constructed as described, with the handle B, plunger D, rods E, collar F, and spiral spring G, substantially as set forth.

**70,138.**—JEROME C. WARD, Bergen, N. Y.—*Stove Pipe Drum*.—October 22, 1867.—The lower end of the lower damper and the upper end of the upper one are formed to fit the pipe, and when placed in contact therewith the smoke takes a devious course before escaping.

*Claim.*—The combination of the two elongated dampers B B, connected by rod *b* with the drum A, without partitions, the whole operating in the manner and for the purpose specified.

**70,139.**—GEORGE W. WARFIELD, Hudson, Mass.—*Machine for Shaping Boot Heels*.—October 22, 1867.—The heel is clamped to the rotating former, which regulates the position of the rotary cutter by which the heel is trimmed.

*Claim.*—First, the employment of the revolving cam plate or former *p* for the purpose both of supporting the heel and giving the required outline to it under the action of the rotary cutter, substantially as hereinbefore described.

Second, in combination with such cutter B, and in a machine for trimming boot heels, the fender or ledge *b<sup>2</sup>*, applied to the cutting carriage C, as set forth and explained.

Third, the construction and mode of application of the clamp plate *l'*, in the manner and operated by the treadle *a'*, as before explained.

Fourth, the peculiar construction of the former *p*, as composed of the oval-shaped plate for giving the necessary movements to the cutter carriage C and of the stop or abutments *p'*, as and for the purpose set forth.

Fifth, the general combination and arrangement of the machine as herein shown and described, consisting of the revolving cutter B, the former *p* and the clamp *l'*, these several parts being operated by their respective mechanisms in the manner as before referred to and explained.

**70,140.**—C. WEST and B. K. PRICE, Pittsburg, Pa.—*Blower for Forges*.—October 22, 1867.—A rotary blower upon the removable stand is connected with the blast pipe of the forge.

*Claim.*—First, the combination of a forge, supply pipe and fan, when the latter is arranged in a box, as shown, and is operated by means of a fly gear and pinion wheels, the whole being constructed, arranged, and operating substantially as described and for the purposes set forth.

Second, the combination of the forge, supply pipe and fan box, when the latter is constructed with a movable top and side openings, as shown, and the whole are so arranged that, acting on the principle of the ordinary chimney flue, they will secure to the forge a continuous current of air, substantially as described.

**70,141.**—LUKE WHEELOCK, New Haven, Conn.—*Breech-loading Fire-arms*.—October 22, 1867.—The breech block drops into a recess to allow the insertion of a cartridge, and is raised by a projection at its rear end, which has a spring catch to hold the block in position for firing. A spring beneath the breech block raises it slightly, after insertion of the cartridge to prevent its slipping out.

*Claim.*—The spring E, in combination with the breech block C, and arranged so as to be depressed by the insertion of the cartridge, and when the cartridge is inserted to immediately raise the block, so as to prevent the accidental removal of the cartridge.

**70,142.**—ROBERT WHITEHILL, Jr., New York, N. Y.—*Motor for operating Sewing Machines*.—October 22, 1867.—The machine is drawn by a friction clutch, operated by a treadle. The action of unclutching brings a spring brake into action, and vice versa.

*Claim.*—First, the combination for simultaneous joint action by one and the same motion or application of force of a spring clutch, and yielding or spring brake, as a means of stopping or starting and varying the speed of a secondary shaft relatively to a prime mover traveling at a uniform velocity, substantially as specified.

Second, the spring clutch I, constructed essentially as described of hinged leaves *d*, acted upon by springs *e*, and operating in concert with a conically recessed pulley H, as herein set forth.

Third, in combination with the treadle J, the brake K, provided with a spring M, and controlled by stops or projections of, from, or through a connecting rod or sliding bar *l*, substantially as shown and described.

**70,143.**—WILLIAM N. WHITLEY, Springfield, Ohio.—*Pitman Head and Wrist Pin*.—October 22, 1867.—The wrist pin is a truncate, conical, tubular piece attached to the crank wheel by a bolt. The head of the pitman rod is bored to fit this piece, and may be adjusted thereon to take up lost motion. The nut in contact with the head is recessed to form an annular oil space.

*Claim.*—First, the solid head B, provided with a conical box, as set forth, in combination with the tubular wrist pin C, all constructed and operating as set forth.

Second, the recess nut D, in combination with the wrist pin, as and for the purpose set forth.



**70,144.**—WILDRICH WINTERHALTER, Philadelphia, Pa., assignor to himself and JOHN McARTHUR, Jr., same place.—*Flooring and Paving Tile and Building Block.*—October 22, 1867.—Explained by the claim.

*Claim.*—First, a paving or flooring tile or building block, composed of pulverized bricks and ordinary brick clay, mixed together, molded, subjected to pressure, and burnt, as set forth.

Second, combining with the said tiles or blocks an outer coating of pulverized quartz and brick powder, as set forth.

**70,145.**—JAMES F. WOOD, 2d, Cohocton, N. Y.—*Car Brake.*—October 22, 1867.—The brake shaft at each end of the car connects to a bell crank lever, and the lower arms of the latter unite to form a toggle, by whose action the brake bars are moved toward or away from the wheels; they are thus operated from either platform.

*Claim.*—First, the arrangement of the two right-angle levers, so connected together that they form a knuckle joint bearing on the center of the brake bars, operating in the manner substantially as and for the purposes herein set forth.

Second, the adjustable links *d d* and the sliding suspension rods *b b*, as arranged for the purposes herein described.

**70,146.**—ASA T. WOOLSEY, Sandusky, Ohio.—*Ironing Table.*—October 22, 1867.—The stand is supported on X-formed ends. The ironing board is pivoted to the frame at one end, and on this end is a projection engaged by a cord so as to raise the other end and form a skirt board.

*Claim.*—The standards *B'*, cross-bar *C*, and cord *E*, in combination with the board *b*, having a horizontal and vertical adjustment, substantially as and for the purpose set forth.

**70,147.**—CHARLES F. STEEL, Brooklyn, N. Y.—*Manufacture of Postage Stamps.*—October 22, 1867.—The paper is gummed, embossed so as to impair its texture in parts, smoothed, and printed on portions of its face. In canceling, the paper in the broken portions absorbs the ink, rendering the latter irremovable and preventing the fraudulent second use of the stamp.

*Claim.*—First, a postage stamp, or equivalent printed paper, having the paper partially broken, opened, and weakened along the lines *m*, substantially as and for the purpose herein set forth.

Second, in the above, applying the gum or equivalent adhesive material before such treatment of the paper, as and for the purposes herein specified.

Third, in combination with the above steps, the flattening of the whole or a portion of the surface of the paper prior to the printing operation, as and for the purpose herein explained.

Fourth, leaving a space *B* which is embossed and partially broken, as indicated, and not flattened or printed, substantially as and for the purpose herein specified.

**70,148.**—A. M. ASAY, Philadelphia, Pa.—*Mold for Artificial Teeth.*—October 29, 1867; antedated October 15, 1867.—The oblong depressions in the mold receive the bowed end of the staples or headed plates by which the teeth are to be attached to the vulcanite base, the other ends being imbedded in the plastic material which forms the teeth. Other depressions give an increased amount of material at the ends of the sections.

*Claim.*—First, constructing the mold with oblong depressions *c* for receiving and retaining the bowed end of the staples *b* or end of plates which project from the lingual surface of the teeth for confining them to vulcanite or other plates.

Second, the depressions *d* and *e*, constructed and arranged substantially as described, for giving increased strength to the rim *f*, substantially as set forth.

**70,149.**—GEORGE F. ATKINSON, Seymour, Conn.—*Spring Bolt for Doors.*—October 29, 1867.—The bolt is projected by a coiled spring and retracted by a rod which is screwed into it, and the degree of its retraction is determined by a screw nut.

*Claim.*—The bolt *A* moving in casing *B*, in combination with spring *C* and screw bolt *F* and nut *G*,

when all are combined and arranged together, substantially as and for the purpose described.

**70,150.**—SILAS O. AVERY, Brewster's Station, N. Y.—*Milk Can.*—October 29, 1867.—Explained by the claim.

*Claim.*—The making of a can or vessel to contain milk or other fluid substances from one piece or strip of tin or other metal, so constructed, in the manner and with the devices described, as to have between the inner and outer surfaces an air chamber perfectly sealed and impervious to the external effects of atmospheric heat or cold, and which may be applied to all cylindrical vessels composed of tin or other metals and designed to contain fluid substances.

**70,151.**—JOHN BIRD, New York, N. Y.—*Tree-nail.*—October 29, 1867.—For fastening wooden sheathing to iron ships, or wooden planks to iron framing. The tree-nail is driven through the holes in the wood and iron, and receives the usual wedge at the end in the wood; the inner end is expanded into a thimble with a tapering socket.

*Claim.*—The new fastening herein described, namely, a tree-nail combined with a metallic socket and wedge applied thereto, substantially as specified.

**70,152.**—GEORGE W. BAKER, Hinsdale, N. H., assignor to himself and WARREN E. EASON, same place.—*Sewing Machine.*—October 29, 1867.—The cloth is fed by the lateral oscillation of the needle. The lower thread is carried by a looper bar through the loop formed by the needle. The lateral motion is effected by an oscillating bar beneath the platform, which strikes the needle when in the cloth. The feeding motion is adjusted by a cam. The looper is secured to the needle side of the bar and passes through the loop as the needle is rising. The take-up device is pivoted to the needle bar and reciprocates with it.

*Claim.*—First, the combination of the gear wheel *a* and crown gear *K*, needle feeding bar *L* carrying the looper *N*, and pin *p'*, as herein described, for the purpose specified.

Second, regulating the lateral or feeding action of the needle feeding bar *L*, carrying the looper, by means of a cam or lever *M*, made substantially as herein shown and described.

Third, combining the looper bar *L* and looper *N* with the slotted or adjustable plate *m*, spring *o*, and lever *M*, (or its equivalent,) all made and operating substantially as and for the purpose herein shown and described.

Fourth, the take-up device *J*, constructed as described, when arranged as set forth on the needle bar *D* and when operated by the motions of the same and by the stationary pin *j*, in combination with the hinged bar *H*, needle *G*, and looper bar *L*, all made and operating substantially as and for the purpose herein shown and described.

**70,153.**—T. H. BELLARD, Colbrook, Ohio.—*Field Fence.*—October 29, 1867.—The ends of the panels interlock between the posts, which are connected by yokes, and the panels are nailed to blocks on the straight running rider.

*Claim.*—The special arrangement of the boards *A*, stakes *B*, yoke *C*, and rails *E*, in the manner as and for the purpose set forth.

**70,154.**—R. N. BENNETT, Blanchport, N. Y.—*Sinking Well Tubing.*—October 29, 1867.—The tube has a removable point whose shank has a cylindrical portion, and above it a flat slotted portion in which the cross-pin traverses. The star-shaped disk impedes the passage of detritus.

*Claim.*—First, the point *C* with its shank *B*, provided with the cylindrical portion *a*, the chamfers *b b*, and the flat portion *e*, and attached by the slot and pin *f d*, when combined with the tubing *A*, in the manner and for the purpose herein set forth.

Second, the combination with the shank *B* of the star-shaped diaphragm *g*, arranged and operating in the manner and for the purpose specified.

**70,155.**—JOSEPH G. BICKNELL, Cambridgeport, Mass.—*Window Screen.*—October 29, 1867.—A frame fits to the window casing, and to it are hinged sec-



tions covered with netting, which may be opened as required.

*Claim.*—The combination of the outer frame A with the inner netting-covered frame B fitted into it and hinged at its sides, all as and for the purpose described.

**70,156.**—JARED C. BLACKMAN, West Meriden, Conn.—*Plated Ware.*—October 29, 1867.—The articles have an extra thickness of the precious metal at the prominent and resting points which are principally exposed to wear.

*Claim.*—In the manufacture of plated ware or articles, providing such articles at their points of rest or contact with a thickness of the same metal as that with which they are plated, substantially as and for the purpose described.

**70,157.**—J. P. BRADLEY, Lawrence, Mass., assignor to himself and E. E. ALLEN, Boston, Mass.—*Boot and Shoe Shield.*—October 29, 1867.—The shield is attached by straps to the side of the boot.

*Claim.*—The boot shield or plate *a*, provided with the metal strap *b* and flexible strap *c c*, all relatively arranged to secure the shield in position to protect the side of a boot in coasting, substantially as set forth.

**70,158.**—ALBERT G. BREWER, Washington, D. C.—*Leather Quilting Machine.*—October 29, 1867.—The wire is forced into the leather by the die as the leather is fed through the machine. The object is to increase the durability of the leather by the insertion of the metal.

*Claim.*—The combined arrangement of the spindle *e*, adjusting slide N, and plate *d*, the adjusting bolt *y*, and adjusting stud *h*, arranged substantially as and for the purpose described.

**70,159.**—GEORGE T. BREWER, Prairie du Rocher, Ill.—*Gang Plow.*—October 29, 1867; antedated October 19, 1867.—The plows are arranged in diagonal order, the front and rear plow beams branching from the central one, and being stayed by diagonal brace bars.

*Claim.*—The combination and arrangement of the plows B B<sup>1</sup> B<sup>2</sup> with the beams A A<sup>1</sup> A<sup>2</sup>, as described and set forth.

**70,160.**—FRANKLIN H. BROWN, Chicago, Ill., assignor to himself, EDWARD F. PEUGEOT, and LEMUEL H. FLERSHEIM, same place.—*Machine for Braiding Open-work Baskets.*—October 29, 1867.—The form rests on the bottom of the basket on the platform, and is in contact above with the lower end of the vertical shaft; the uprights pass through separate holes in the slides, one-half of which, numbered alternately, are passed around from recess to recess in one continuous direction, while the other half cross them, passing in the other direction, the effect being to braid the uprights together around the form.

*Claim.*—First, pieces R and S, in combination with lever M, as and for the purposes set forth.

Second, slides P, having an opening or hole 7 and a groove 11, as and for the purposes set forth.

Third, combination of the shaft E, disk D, and disk N, as and for the purposes specified.

Fourth, plunger F, in combination with pieces R and S and lever G, as and for the purposes set forth.

Fifth, crank pin L, piece K, and rods *k k'*, in combination with rods 3 and 4, shaft E, and sleeve 9, as and for the purposes specified.

Sixth, in a braiding machine, the movable platform U, as and for the purposes set forth.

Seventh, cam B, in combination with lever G and standard J, as and for the purposes set forth.

Eighth, spring Q, in combination with lever M, as set forth and for the purposes specified.

Ninth, the general construction and arrangement of mechanism, substantially as shown and for the purposes specified.

**70,161.**—JOHN BUERCKY, Overpeck's Station, Ohio, assignor to himself and MICHAEL WEHR, same place.—*Brush.*—October 29, 1867.—The broom corn is clamped between toothed plates, which fit together and are secured by screws. The handle is fastened to the clamping frame.

*Claim.*—The plate F, with its arms or guards *f f'* and plate F, with ledges *e e*, in combination with

plate *b*, arms *a a*, and adjustable handle *c*, constructed, arranged, and used in the manner and for the purpose described.

**70,162.**—G. W. CAMPBELL, Pendleton, Ind.—*Portable Fence.*—October 29, 1867.—The lower edges of the panels rest in notches in the horizontal bar of the brace, and the upper portions have hooks which catch over wires on the apexes of the braces.

*Claim.*—The connecting together of the upper part of the panels A by means of the hooks *j* and the slots *h*, in the upper ends of the braces C, with the rods *k* passing through said slots for the hooks *j* to catch over, in combination with the slots *i* in the upper edges of the centers of the base strips *g g* of the braces to receive the lower ends of the end bars *b* of the panels, substantially as shown and described.

**70,163.**—WILLIAM CANTER, New York, N. Y., assignor to J. HENRY VOGT and J. JACOB GASS, same place.—*Chenille.*—October 29, 1867; antedated October 16, 1867.—Instead of cutting both ends of each loop as is usual, one end only is cut, thus producing a chenille which, by reason of being only half cut, presents a close spiral of cut ends alternating with a close spiral which is uncut.

*Claim.*—The partially uncut chenille made in the manner specified, as a new article of manufacture.

**70,164.**—WILLIAM E. CARD and PARDON ANDREWS, Phoenix, R. I.—*Picker for Looms.*—October 29, 1867.—The loose pad is retained by a face plate in the cavity in the staff, and is backed by an elastic pad.

*Claim.*—First, the combination of the staff A, having recesses E G of unequal diameters in its end B, the loose pad D, elastic cushion F, and plate J, as constructed as herein described and for the purpose specified.

Second, so securing the pad in the staff as to have a side or lateral play, substantially as and for the purpose set forth.

**70,165.**—R. D. CHANDLER, Fairhaven, N. J.—*Clothes Dryer.*—October 29, 1867.—The arms have a quadrilateral arrangement around a central post to which they are hinged, so as to be oscillated vertically for compactness when not in use.

*Claim.*—The combination of the center post A, having shoulder plates E in combination with the clothes frames C, having slide spring bolts D, substantially as and for the purpose described.

**70,166.**—B. E. CHOLLAR, Leavenworth, Kansas.—*Removing Carbon from Gas Retorts.*—October 29, 1867.—Explained by the claim and illustration.

*Claim.*—The use of a jet of steam in the stand pipe of gas retorts to cause a draft of air through the retort for the purpose of burning or consuming the deposit of carbon, substantially as described.

**70,167.**—JOHN COATS, Camden, Ohio.—*Beehive.*—October 29, 1867.—A series of brood boxes are arranged consecutively, and communication is permitted or prevented as may be required for confining the bees in a given space or separating them to prevent swarming.

*Claim.*—The herein described extension beehive when constructed and arranged in the manner and for the purpose substantially as set forth.

**70,168.**—J. L. COLLINS and H. C. BERGIE, Chicago, Ill.—*Stove Drum.*—October 29, 1867.—The partition causes the calorific to ascend to the top and then dive down to reach the exit. Pipes passing transversely through the stove form a part of the partition and discharge their heated contents into the room.

*Claim.*—First, the reversible partition F, when provided with lateral flues and bent at the lower end so as to close one-half of the lower opening into the drum, substantially as specified.

Second, the combination and arrangement of the outer case A and removable partition F, with the collars E, substantially as and for the purpose specified.

**70,169.**—GEORGE A. COLTON, Adrian, Mich., and ALBERT D. ANGEL, Coldwater, Mich.—*Device for Truss Springs.*—October 29, 1867.—The springs



are attached to a plate and are thrown in toward or from each other, to vary their pressure on the parts by means of set screws in the plate.

*Claim.*—The plate *B b b'* and adjusting screws *C C'*, in combination with the hinged sections *A A' a a'* of the truss spring, substantially as described and for the purpose specified.

**70,170.**—THOMAS COURSER, Burlington, Iowa.—*Washing Machine.*—October 29, 1867.—The reciprocating, slatted beater is moved by the revolving crank and acts in connection with a perforated concave in the suds box. To the beater is attached a washboard which reciprocates beneath a pressure board.

*Claim.*—First, the combination of an elastic yielding box *B*, carrying a concave *b*, with a plunger *C*, which receives motion from a crank shaft *D*, substantially as described.

Second, the combination of a washboard *E*, pressure board *G G'*, and plunger *C*, with the concave bed *b*, arranged to operate substantially as described.

Third, so constructing and arranging the plunger *C* and combining it with a concave bed *b*, that the clothes are raised out of the water and compressed at every forward stroke of said plunger, substantially as described.

**70,171.**—GEORGE L. CRANDAL, Pitcher, N. Y.—*Shuttle.*—October 29, 1867.—The devices are to regulate the tension of the filling as it runs from the spool to the eye of the shuttle. A spring loop is placed on the inside, near the eye, in connection with a stationary wire by which the strain is equalized and the kinks straightened out. In threading, a curved wire hook is introduced through a guide way cut in the shell of the shuttle, to catch the filling and draw it through the eye.

*Claim.*—First, the curved tension spring *a* in combination with the curved fixed wire *e*, when arranged and operating in a shuttle, substantially as and for the purpose herein specified.

Second, the inclined groove *m* in the shell of the shuttle opposite the eye *e*, for guiding the threading wire *p*, as set forth.

**70,172.**—ROBERT CREUZBAUR, New York, N. Y.—*Connecting Link.*—October 29, 1867.—One side of the link is pivoted, and when sprung shut is secured by a spring piece. Each end of the movable portion has a lug which shuts into a groove in the main portion, to strengthen it when strained.

*Claim.*—First, an O-connecting link having a closing piece pivoted to it, substantially as described.

Second, adapting the pivoted closing piece of the O-link to serve as a means for strengthening the main portion of the link, substantially as described.

Third, the combination of the pivoted closing piece *B*, spring *E*, and link portion *A*, constructed substantially as described.

**70,173.**—J. M. and M. L. CUMMINGS, Philadelphia, Pa.—*Shutter Bowing Bolt.*—October 29, 1867; antedated October 15, 1867.—The bolt slides in keepers on both shutters and has a hinged section which may be made to enter its keeper when the shutters are bowed.

*Claim.*—First, a shutter bolt having joined to the end of its slide *C* a T-piece *c'*, so as to operate in combination with the case *A*, substantially as and for the purpose described.

Second, in combination with the slide *C*, having a jointed end and operating in the case *A*, substantially as described, the adjustable thumb and finger piece *c''*, and the slotted hole *b<sup>5</sup>* in the plate *B*, substantially as and for the purpose set forth and described.

**70,174.**—JAMES P. DAVIS, Stiles, Wis.—*Bunk for Logging Sleighs.*—October 29, 1867.—The bunk lies transversely on the sled to receive the logs, and has, ready attached, chains by which the logs are secured.

*Claim.*—An improved logging bunk *A*, the ends of which are slotted vertically and which has log chains *B* attached to it within the said slots and at or near their inner ends, substantially as herein shown and described and for the purpose set forth.

**70,175.**—ALFRED DAWES, Hudson, Mass.—*Leather-Splitting Machine.*—October 29, 1867.—Two

feeding rolls push or feed the skin to be split against the edge of a knife, which has rapid but short reciprocations. The organization adapts the machine to the splitting of sheep and other skins which have not sufficient tenacity to admit of their being drawn or pulled against the edge of a stationary knife.

*Claim.*—The leather-splitting machine constructed, arranged, and operating substantially as described.

Also, the compound roll, consisting of the central roll or shaft, the sleeve of yielding elastic material covering said roll or shaft, and the outer rings of hard material, arranged to operate as set forth.

Also, the construction of a cylinder cam in two separate pieces, adjustable with respect to each other, substantially as and for the purpose specified.

**70,176.**—ICHABOD W. DAWSON, Newark, N. J.—*Enameled and Japanned Leather.*—October 29, 1867.—To obviate the subsequent stretching of the leather and cracking of the finished surface, it is subjected to the full extent of probable stretching before the enamel surface is applied.

*Claim.*—Leather, the japan or composition of which is applied after the same has been subjected to a powerful stretching action, as a new article of manufacture.

**70,177.**—W. A. DRIPPS, Fort Wayne, Ind.—*Pneumatic Spring.*—October 29, 1867.—Air is confined in the upper part of the chamber and acts as a spring when force is applied upon the surface of the water in the other chamber. The water extends below the piston and enters by openings to the inside of the packing rings, which are thereby driven against the inside surface of the cylinder.

*Claim.*—The construction of the pneumatic spring, consisting of the case *A*, and having an eccentric cylinder *B*, and cover *J*, said cylinder containing the piston *D*, having the rings *c d e*, and perforated upon its under side at *f*, and provided with the rod passing through the cover *J*, as herein set forth, for the purpose specified.

**70,178.**—HENRY W. DRIVER, Havana, Ill.—*Washing Machine.*—October 29, 1867.—The clothes are attached by spring clasps to the drum, which is then revolved, carrying the clothes through the water in the tub and against pressing rollers and a rubbing board.

*Claim.*—The drum *B*, rollers *I I*, and rubbing board *N*, when arranged in connection and combination with each other, substantially as and for the purpose described.

**70,179.**—D. A. DUNHAM, Palatka, Fla.—*Cradle.*—October 29, 1867.—Explained by the claim and illustration.

*Claim.*—A child's cradle *A*, formed of a barrel with the hoops *b b* projecting over the ends, and the rib-shaped rockers *c c* lying close underneath, arranged substantially as described.

**70,180.**—JACOB EDSON, Boston, Mass.—*Hoisting Machine.*—October 29, 1867.—The pinion on the central shaft gears into four surrounding pinions, by which the internal cog gear on the end of the windlass is rotated. To the hand yawl, which acts as a dog on the ratchet, is attached the brake band by which the speed in lowering is regulated.

*Claim.*—The arrangement and combination of the lever pawl *G*, the brake *H*, the windlass barrel *A*, the brake pulley *I*, the ratchet *D*, the shaft *B*, and the train of gears *c d C*, or the equivalent thereof, such gears being applied to the shaft, ratchet, and windlass barrel, substantially as specified.

Also, the combination of the screw arm *I' I'*, and its nut *l*, or nuts *k l*, with the brake *H*, and the lever pawl *G*, substantially as described.

**70,181.**—T. B. EMERSON, Seville, Ohio.—*Clothes Wringer.*—October 29, 1867.—The collars are attached to the shaft, and have deep notches to hold the ends of the bar around which the end of the canvas is folded. The bar lies in a flat of the shaft, and the canvas takes two or three turns before the rubber is associated with it, when the two are lapped around to make the required thickness, the end fastened and the whole vulcanized.

*Claim.*—The shaft *A*, collars *C*, provided with notches *D*, when said collars and shaft are constructed



in one entire piece, in combination with the rod E, canvas F, and rubber G, in the manner as and for the purpose set forth.

**70,182.**—JOSEPH M. ESTABROOK, Milford, Mass.—*Paint Brush.*—October 29, 1867.—The butts of the bristles are placed in a tapered ferrule, and are clamped therein by a conical plug on the handle. The latter is screwed into the cylindrical ring whose shoulders hold the bristle ferrule.

*Claim.*—First, the arrangement of the rings D and E, having flanges or studs or shoulders *a* and *b*, respectively, and being combined with the handle A having the ferrule B and conical pin C, all made and operating substantially as herein shown and described.

Second, making the ferrule B and pin C of one piece of sheet metal, substantially as herein shown and described.

**70,183.**—ANDERS FAGERSTRÖM, Wyoming, Pa.—*Setting Tires on Wheels.*—October 29, 1867.—The apparatus is a permanent attachment to the wheel, to tighten or loosen the tire according to the swelled or shrunken condition of the rim. The bent ends of the tire are engaged by a pair of jaws which are pivoted in a plate on the inside of the rim, and are kept at the required distance by a distending plate.

*Claim.*—The notched bars F F, in combination with the hooked or bent ends *a a* of the tire B, and the bar G fitted between the bars F F, all being arranged and applied to the wheel substantially in the manner as and for the purpose set forth.

**70,184.**—MATTHEW FALOON, Bloomington, Ill.—*Gas Generator.*—October 29, 1867.—The sack from which the air has been expelled receives the medicinal agent from the generator and discharges it by a nozzle, by pressure on the sack.

*Claim.*—The combination of the fountain C, connected to the generator B by means of the tube *d*, with the sack A provided for different forms of nozzles, substantially as herein shown and described and for the purposes set forth.

**70,185.**—O. H. P. FANCHER, New York, N. Y.—*Anti-kicking Attachment for Horses.*—October 29, 1867.—The strap passing over the pole runs through the bit rings and through stay rings to a ring on the rump, whence it passes to the thills, so that when the horse kicks he draws violently on his bit.

*Claim.*—The strap C applied to the thills A and bit rings *a'*, as shown, in combination with the straps *b b*, bit rings *a*, and rings C\*, all arranged to operate substantially as and for the purpose set forth.

**70,186.**—G. W. FIRESTONE, Fredericksburg, Ohio.—*Hand Loom.*—October 29, 1867.—The shaft is alternately raised and depressed with the sweeps to which it is attached, by the oscillations of the lathe. The pins on the shaft strike the treadles and by means of the connecting cords operate the picker staffs to throw the shuttle.

*Claim.*—The combination of the lathe B, with the sweeps F F, shaft G, treadles H, cords K K, and pickstaves M M, substantially as and for the purpose specified.

**70,187.**—THOMAS FOGG, Detroit, Mich.—*Railroad Switch.*—October 29, 1867.—The three switch rails are used in connection with the main rails and siding, a short and a long tongue on each side acting as leaders, and the long ones springing to allow the flanges of the wheel to pass, under certain conditions.

*Claim.*—First, the switch, composed of the three rails C D E at each side, in connection with the rigid tongues I J, yielding main rails A' A', and guard rails K, all arranged to operate in the manner substantially as and for the purpose set forth.

Second, the combination of the springs L, with the rails A' A', when the latter are used in connection with the tongues I J and the switch, substantially as and for the purpose specified.

**70,188.**—WILLIAM H. FORKER, Meadville, Pa.—*Machine for Opening Cans.*—October 29, 1867.—The point is thrust into the can and forms the center of revolution while the knife is rotated to cut out a circular disk.

*Claim.*—The handle A, with the base R, and the

handle or lever B, constructed as described, when the same are in combination with the knife C C, and the point F, as described and for the purpose set forth.

**70,189.**—J. FORSHEE and J. C. McCCLAND, Unionville Centre, Ohio.—*Hay Stacker.*—October 29, 1867.—The cocks are taken up by the forks operated by the cranks and windlasses. The pawls on the pulley frames connect with ratchets on the cranks, and hold the load while being transported to the stack.

*Claim.*—The shaft *a* supported by standard *b* upon the carriage *c*, and having at its top the revolving cross-piece *d* with sheaves *e*, over which latter pass ropes *h* attached to windlasses *k* and forks *i*, the whole being constructed and arranged as and for the purpose described.

**70,190.**—MALTBY FOWLER, Northford, Conn.—*Card for Hooks and Eyes.*—October 29, 1867.—The hooks and eyes are pushed through the crescent-shaped punctures in the card and are then engaged to keep them in place.

*Claim.*—The card A, provided with two or more series of punctures *a*, the convex side of each series facing each other, and provided with the tongue piece *b* fitting over the hooks and eyes, as herein set forth for the purpose specified.

**70,191.**—ISAAC FREED, Harrisburg, Pa., assignor to WM. GETTY, Camden, N. J.—*Seat for Chamber Vessels.*—October 29, 1867.—The annular trough sits over the rim of the vessel; the spring board rests upon the lower one and has a padded upper surface.

*Claim.*—The arrangement of the springs C, the boards A B, and the rims D E, as and for the purpose specified.

**70,192.**—THOMAS F. FREEMAN, Brooklyn, N. Y., assignor to himself and WILLIAM H. ABBOT, same place.—*Machine for Cutting Wood Gear.*—October 29, 1867.—The cutters rotate upon the same axis, but are capable of adjustment as to relative distance for cutting out the spaces between the teeth of gears of different pitch. By the action of the slides the cutters are adjusted to converge, diverge, or remain parallel, according to the bevel, miter, or straight wheel that is being cut.

*Claim.*—First, a pair of revolving cutters set upon the same axis of rotation, but capable of being moved toward or away from each other, in combination with guides or slides, substantially as specified for directing the cutters in forming gear teeth, as set forth.

Second, the arrangement of the slides *q r*, arms *n p*, frame *m*, slide *e*, and bed *b*, in combination with the rotary cutters *l l*, mounted and actuated as set forth.

**70,193.**—JOHN GARDNER, New Haven, Conn.—*Capping Screws.*—October 29, 1867.—The cap has a small screw stem in its center which is screwed into the head of the main screw after the latter has been driven into the wood.

*Claim.*—First, the combination of the cap and screw stem fast to the cap, with the screw head and socket or orifice formed therein for the reception of the said stem, under the arrangement and for operation as set forth.

Second, in screws in which the cap and its central screw are combined with the head of the screw as described, making the under surface of the said cap concave, substantially as and for the purposes set forth.

**70,194.**—J. N. GEORGE, Boston, Mass., and JACOB R. SANBORN, Waltham, Mass.—*Hair Brush.*—October 29, 1867.—A piece of sponge is attached between the bristles to carry and apply the oil when the brush is used.

*Claim.*—The combination with a hair brush of a sponge C, or equivalent absorbent material, substantially as and for the purpose specified.

**70,195.**—GEORGE GEWEAY, Philadelphia, Pa., assignor to himself and HOWARD EATON, same place.—*Corn Sheller.*—October 29, 1867.—The ears of corn are thrown into the hopper and fall upon the ribs in the spaces between the flanges which impel the ears forward. The shelled corn drops through the concave



and the cobs pass out through the opening opposite the hopper.

*Claim.*—First, the ribs *i*, for the purpose of enabling the cars of corn, while being shelled, to revolve freely and not clog.

Second, the longitudinal flanges *k*, for the purpose of compelling the cars of corn to revolve and prevent their getting crosswise in the machine while being shelled.

Third, the concave *c*, formed in sections with diagonal toothed bars, each section acting independently of the other sections and corresponding in width with the spaces between any two of the longitudinal flanges *k* at their outer edges, substantially as set forth.

Fourth, the combination of the cylinder *b*, concave *c*, and spring *d*, in the manner and for the purpose substantially as set forth.

**70,196.**—WILLIAM GOFF, Big Flats, N. Y.—*Portable Dumping and Loading Machine.*—October 29, 1867.—The frame supports the skids on which the scraper is elevated by the draft rope that runs over the suspended pulley above.

*Claim.*—First, the spring guide *d*, operated by lever *K* and system of levers *L*, substantially as described, in combination with an incline or inclined track *D*, and rests *f*, and their respective equivalent, substantially as herein shown and described.

Second, the folding apron *C*, hinged at *c*, in combination with a device for dumping and loading, substantially as above set forth and described.

Third, the folding apron *H*, hinged at *h*, also in combination with a device for dumping and loading, substantially as above set forth and described.

**70,197.**—WILLIAM W. GORDON, Delhi, N. Y.—*Whiffletree Trace Catch, or Cock-eye.*—October 29, 1867.—The cock-eye is passed over the stud of the whiffletree tip, and then rotated 90°, the stud preventing its withdrawal while in that position.

*Claim.*—First, the stud, key, or pin *a*, Figs. 1, 2, 3, and 4, in combination with a whiffletree tip or trace catch, substantially as set forth.

Second, the slot *e*, in combination with the cock-eye *c*, Figs. 1 and 5, when constructed in the manner and for the purposes set forth.

Third, the combination of the stud *a* and slot *e*, Fig. 1, when constructed in the manner and for the purposes set forth in the above specification.

**70,198.**—JOHN GRAY, Dubuque, Iowa.—*Ventilating Millstones.*—October 29, 1867.—By the action of the fans the heated air, after having passed between the stones, is drawn from the curb, and its vapor condensed in a cooler, while a current of fresh air is passed into the eye of the runner.

*Claim.*—First, the fan blower *E*, arranged in relation with the box *D*, constructed as described, spouts *C C*, and millstones, as herein set forth, for the purpose specified.

Second, the box *D*, constructed as described, provided with the discharge spouts *G G* at each end, and having the cleaning sweep *g* operated by means of the cord *h*, as herein set forth for the purpose specified.

Third, the oblong box *D*, inclined spouts *C*, and fan blower *E*, arranged in relation with each other and with the millstone, as herein set forth for the purpose specified.

**70,199.**—JOHN GRAY, Litchfield, Ill.—*Ratchet Drill.*—October 29, 1867.—The rubber spring above the feeding screw gives elasticity and prolonged action to the feeding operations of the drill.

*Claim.*—The combination of the feeding screw *C* with its head *C*<sup>2</sup>, the sliding head *C*<sup>1</sup>, the yielding cushion *C*<sup>3</sup>, the drill spindle *A*, with its dowel *a*, and the cylindrical head *D*, with its flange *d*, substantially as described.

**70,200.**—JACOB GREEN, Norristown, Pa.—*Furnace for Steam Boilers.*—October 29, 1867.—The cast iron key which supports the grate bars unites with the brick wall to compose the arch.

*Claim.*—First, the ash pit *A*, with its arched top, composed partly of brick and partly of a cast iron key, when the latter is constructed to form a bearer for the grate bars, all substantially as herein set forth.

Second, the cast iron key *F*, its side pieces *a a*, and

notched ribs *i*, in combination with the movable bars *m*, for the purpose described.

**70,201.**—JOSEPH GRIMES, Alexandria, Va., assignor to himself and F. A. REED.—*Bag Tie.*—October 29, 1867.—The neck of the bag is clasped between the links. The cam lever is pivoted to one of the links, is hooked to the other link, and then oscillated to tighten the grasp.

*Claim.*—The combination of the lever *c*, provided with the teeth *c'*, with the links *a a'* and clevis *b*, arranged substantially as described.

**70,202.**—JOSEPH L. HALL, Cincinnati, Ohio.—*Safe.*—October 29, 1867.—The plates are dovetailed together, and angle irons are tenoned into the corners to make them mutually sustaining.

*Claim.*—First, the jointing together two or more metallic plates by means of dovetails, grooves, and tenons at their edges or otherwise, as herein described, when the said plates are used in the construction of burglar proof safes, vaults, and other secure receptacles.

Second, the dovetailed, grooved, and tenoned angle irons *G*, when the same are used for securing together the corners of safes, vaults, or other secure receptacles, as herein described and for the purpose specified.

Third, the dovetailed plates *B D*, or their equivalents in combination with the dovetailed, grooved and tenoned angle irons *G* and the tapered arbors *c*, when the same are constructed and arranged for burglar proof safes, vaults, and other secure receptacles, substantially as and for the purpose herein described and set forth.

**70,203.**—WILLIAM H. HALL, Chicago, Ill.—*Lightning Arrester for Telegraphs.*—October 29, 1867.—The non-conducting plate supports small connecting plates that are brought near to the ground plate without any non-conducting substance between them. The non-conducting plate is adjusted by slides and set screws. Non-conducting supports are placed between the ground plate and the non-conducting plate. The small connecting plates are surrounded with a non-conducting support.

*Claim.*—First, supporting the connecting plate *G* over the ground plate *A*, without any non-conducting substance between them, by means of the plate *B*, substantially as specified.

Second, connecting the plate *B* to the ground plate *A* adjustably by means of the posts *E* and slides *D*, substantially as and for the purposes specified.

Third, the non-conducting plate *B*, when surrounding and supporting the connecting plates or disks *G*, substantially as specified and shown.

Fourth, the non-conducting supports *a*, substantially as and for the purposes specified.

Fifth, the combination of the ground plate *A* and posts *E* with the non-conducting plate *B*, non-conducting supports *a*, and collars or slides *D*, substantially as specified.

Sixth, the combination of the ground plate *A*, posts *C*, and standards *E*, with the plate *B*, connecting plate *G*, post or posts *F*, and slides or collars *D*, substantially as and for the purposes specified.

**70,204.**—NELSON HAMBLIN, Flatbush, N. Y.—*Try Square.*—October 29, 1867.—The two supplementary plates are adjusted to any required bevel and secured by set screws.

*Claim.*—The combination of the plates *C* and *D* with the blade or plate *B* and handle *A* of an ordinary try square, substantially as herein shown and described and for the purpose set forth.

**70,205.**—CYRUS H. HARDY, Charlestown, Mass.—*Machine for Cutting Soap.*—October 29, 1867.—The solid block of soap is drawn against a series of wires, by which it is cut into flakes. By turning the pile edge up, and moving it against the wires, the flakes are cut into bars.

*Claim.*—A machine for cutting soap, provided with ways *a* for receiving the soap from and delivering it upon the "truck," substantially as described.

Also, one or more screws *b*, operated as described, for lifting the block of soap from the truck to the ways of the machine, substantially as set forth.

Also, pivoting the rectangular frame *O* to one side



of the center of vibration of the segmental disks M, in order that the position of the wires V, when cutting the block of soap, may be nearly horizontal, substantially as and for the purpose described.

Also, the rod s, with its screw nut u, in combination with the guide bar t and shoe r, for adjusting and tightening the wire in place, substantially as described.

**70,206.**—CONRAD HARRIS and PAUL W. ZOINER, Cincinnati, Ohio.—*Water Reservoir for Cooking Stoves.*—October 29, 1867.—The two reservoirs have a recess at their junction that forms a flue for the ascent of hot air to heat the water.

*Claim.*—First, a stove reservoir, consisting of two or more covered pots or vessels A B, A' B', formed and combined substantially as and for the purpose set forth.

Second, a stove reservoir composed of two pots or vessels A A', having covers B B' on their opposing sides, in combination with closing strips C C', top plate D, and bolts F F', with their described or equivalent accessories, substantially as set forth.

Third, the mode of hinging the lids of the reservoir by gudgeons N, occupying indentations M in the vessel, and secured by the top plate D, in manner substantially as represented.

**70,207.**—DAVID G. HASKINS, Cambridge, Mass.—*Gas Cooking Apparatus.*—October 29, 1867.—The double cased stove has flues between the cases by which the heat from the burning gas is radiated within the chamber. The caloric currents pass up the sides and down the rear to the chimney.

*Claim.*—First, a gas cooking apparatus, formed with the double casing a c, filled as described, with wire netting in combination with the combustion chamber b, and exit flue f, the inner casing being provided with a hole for the reception of a kettle, or other culinary vessel, and with openings and covers h for the escape of steam, &c., substantially as specified.

Second, the combination of the metal plate or cover e, provided with the diaphragm e' with the perforated inner casing c, and the combustion chamber b, as set forth.

**70,208.**—WARREN D. HATCH, South Antrim, N. H., assignor to himself and LEWIS BABBITT, Worcester, Mass.—*Planing Machine.*—October 29, 1867.—The board is fed by rollers to and acted upon by the upper cutters which flute its surface, reducing it to a succession of longitudinal beads, semi-cylindrical in cross section. The board is then directed between upper fluted rollers, which form bearings, and a cutter beneath reduces the lower surface to the condition of the upper, and the result is the reduction of the board into a series of long cylindrical prisms, suitable for pencils, &c.

*Claim.*—In a machine for reducing a board to a series of cylinders, the rotary cutter carriers B C, cutters D, in combination with the feed rollers I I' and K K', fluted guide bar L, and fluted guide rollers O P P' M, all constructed, arranged, and adjusted to operate in the manner and for the purpose described.

**70,209.**—WESTEL E. HAWKINS, New York, N. Y., assignor to JOSHUA B. GRAVES, same place.—*Construction of Cruet Casters.*—October 29, 1867.—The center plate is punched out of one piece and its edges raised in deeply flanged beads, to increase the strength and improve the appearance.

*Claim.*—The center plate A and the bead around the cruet-holes of one and the same piece of metal, substantially as shown and described.

**70,210.**—CHARLES T. J. HAYDEN, Versailles, Mo.—*Composition for Hardening Steel.*—October 29, 1867.—Composed of 95 per cent. alcohol, 1 ounce; nitric acid,  $\frac{1}{2}$  ounce; iodine, 50 grains; bichromate of potash, 5 grains; salt, 5 grains. Dip the steel in as far as it is to be hardened. Take it out immediately and hold it over the blaze of a fire until it turns blue, then dip in cold water until it cools. Apply in this manner three times, except that the third time the steel should be held in the blaze till it is about a cherry red.

*Claim.*—The application of the aforesaid chemical compound or mixture to steel, for the purpose of

hardening it, or any other substantially the same, which will produce the same effect.

**70,211.**—GEORGE W. HERRING, Bangor, Me.—*Water Wheel.*—October 29, 1867.—The turbine wheel has short buckets alternating with the long ones and thereby filling up the extra space toward the periphery of the wheel.

*Claim.*—The alternate long and short buckets b e, formed respectively with curved and radial portions c g d f, and placed or arranged relatively with the upper and lower rims a a of the wheel and the shaft c, and the lower rim a, fitted in a circular opening in the bottom of the scroll, substantially as herein shown and described.

**70,212.**—ANTHONY J. HINDERMEYER, Rohrerstown, Pa.—*Piling, Heating, and Fluxing Fagots for Railroad Rails.*—October 29, 1867.—The pile and steel plate are brought to a welding heat, the flux is applied to their surfaces, which are brought into contact. The pile is then turned with the steel plate on the hearth in order to heat the sides for the flanges without injury to the steel. The pile is then turned and a coat of flux applied to the steel plate to keep it from getting burned while being brought to a yellow heat, the pile is drawn and rolled out, producing a steel capped rail.

*Claim.*—The method herein described of constructing, fluxing, and heating a pile of iron and steel bars, to be subsequently converted into a railroad rail by rolling as set forth.

**70,213.**—JOHN P. HOLT, Cleveland, Ohio.—*Steam Gauge.*—October 29, 1867.—A slight depression of the spring produces a decided movement of the pointer. The stem and button are fitted loosely in their respective places to increase their freedom of action.

*Claim.*—First, the arrangement of the lever I, link K, and adjusting arm D, with the bow C, chain G, and spindle E, substantially as set forth.

Second, the combination of the abutments P' with the case A, and spring R, substantially as herein set forth.

**70,214.**—CHRISTIAN HOLMES, Washington, Ohio.—*Lifting Jack.*—October 29, 1867.—The pivoted jack is self sustaining as the handle is oscillated to throw the point of support back of the fulcrum of the lever.

*Claim.*—A lifting jack composed of a lifting lever hung to a standard having base board substantially as and for the purpose described.

**70,215.**—D. W. HOWARD, Detroit, Mich.—*Rudder.*—October 29, 1867.—The hinged doors accommodate themselves as the rudder is moved to give increased steerage power.

*Claim.*—The combination of the hinged wings D and vertical bar C with the upper and lower parts of the blade B, and with the post A, substantially in the manner herein shown and described, and for the purpose set forth.

**70,216.**—JAMES L. HOWARD, Hartford, Conn.—*Railroad Car Ventilator.*—October 29, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the frame of a ventilating aperture with a double-mouthed hood turning upon an axis arranged transversely to the aperture, substantially as before set forth.

Second, the combination of the said frame and the double-mouthed hood with arms C F by means of which the said hood at the outer side of the frame may be operated from the inner side of the frame, substantially as before set forth.

Third, the combination of the said frame, double-mouthed hood, and arm, with a connection by means of which two or more of said hoods may be turned simultaneously, substantially as set forth.

Fourth, the combination of the frame of a ventilating aperture, having a hood connected with it, with a register valve, and with a transverse spindle K, for the purpose of operating said register valve, substantially as before set forth.

Fifth, the combination of each of the first three combinations aforesaid with a register valve for regulating the passage of air through the ventilating aperture, substantially as before set forth.

Sixth, the combination of each of the first three



combinations aforesaid with a register valve and a transverse spindle for operating said valve, substantially as before set forth.

**70,217.**—WESLEY HULL, Fort Wayne, Ind.—*Wagon Brake*.—October 29, 1867.—The handle of the lever being forced backward, tension is applied to the brake rod, the shoe is tilted and is brought to bear on the surface of the wheel.

*Claim.*—The brake A, bent lever *a*, connecting rod C, in combination with slotted connecting rods and lever, for the purpose of locking wheels of wagons while ascending or descending hills, the whole being arranged and combined in the manner and for the purposes herein set forth and described.

**70,218.**—HENRY HUMPHREY, Adrian, Mich.—*Fastening for Buttons*.—October 29, 1867.—The studs are secured by hooked plates attached by elastic bands.

*Claim.*—The within described button fastener, consisting of the plates A and B provided with slots *j s* to encircle the shank of the button, and connected together by the elastic *g*, the whole constructed and operating substantially as described.

**70,219.**—WILLIAM HUMPHREYS, Brooklyn, N. Y.—*Buggy Spring*.—October 29, 1867.—The longitudinal springs extend from the rear axle to the D circle and form combined reaches and springs.

*Claim.*—The springs A, formed of either wood or metal, substantially as shown and described, and attached to the rear axle and to the D circle, substantially as set forth and for the purpose specified.

**70,220.**—JULIUS JACOB, New York, N. Y.—*Umbrella*.—October 29, 1867.—The various sections of the umbrella slide within each other and fold up at their hinged connections, reducing it to a small compass.

*Claim.*—The umbrella ribs formed of the sliding tube, as shown in combination with the folding handle and stretchers, as set forth.

**70,221.**—GEORGE JELLEY and JOHN W. GOWELL, Boston, Mass.—*Sash Fastener*.—October 29, 1867.—The spring catch within the frame engages with the ratchet bar on the sash.

*Claim.*—The improved window-sash supporter and fastener herein described, the same consisting of the rack C in combination with the spring bolt D, moving longitudinally in bearings *c d* and operated by the key G, substantially in the manner and for the purposes herein shown and set forth.

**70,222.**—J. GREY JEWELL, Washington, D. C.—*Window Sash Stop*.—October 29, 1867.—The screw bolt passing through the nut on the sash screws into the nut secured to the frame.

*Claim.*—First, the screw head or pad A, made hollow and filled with gutta-percha, rubber, leather, composition, cork, or other substance that may be used for preventing the abrasion of the window frame.

Second, the button or handle, made in one piece with the main screw, and attached to a screw head or pad by a swivel or shoulder joint, with a small screw penetrating the screw head or pad, as and for the purpose set forth.

**70,223.**—S. E. JEWETT, Haverhill, Mass.—*Joint Bolt*.—October 29, 1867.—The joint is clamped by a headed bolt, in the dovetailed recess of which a key engages.

*Claim.*—First, a joint bolt furnished with a dovetail slot and a dovetailed segment of wood to fit the same.

Second, the application of a segment of wood and glue, in combination with the ordinary bolt head, or its equivalent N, or with a hinge head, as specified and described.

**70,224.**—WILLIAM J. KEENEY, Florence, Ind.—*Pitman Coupling*.—October 29, 1867.—The jaws are pivoted together and distended by a spiral spring on the bolt in front, a nut on which compensates the wear of the coupling.

*Claim.*—First, the wrist F G, composed of two cylindrical studs with correspondingly oblique terminations, when formed to be approximated or withdrawn in the line of their axis, substantially as set forth.

Second, the arrangement of jaws D E, having the

obliquely terminated cylindrical studs F G and compressing and expanding devices I J K, or their mechanical equivalents, substantially as and for the purpose set forth.

**70,225.**—WILLIAM J. KEENEY, Florence, Ind.—*Pitman Coupling*.—October 29, 1867.—The recessed beveled jaws engage the recurved wheel of the coupling, allowing freedom of motion in a vertical plane and a certain extent of twisting motion, but do not yield to lateral or longitudinal strain.

*Claim.*—First, a pitman coupling composed of the recurved heel *b* and adjustable jaws D E, which can be adapted to grasp said heel with a uniform pressure on every side, with their described or equivalent accessories, substantially as set forth.

Second, in the described combination, the recurved heel B, jaws D E, serew nut F, and block or spring G, for the purpose set forth.

**70,226.**—GIBBONS L. KELTY, New York, N. Y.—*Window Shade Material*.—October 29, 1867.—Explained by the claim.

*Claim.*—A window shade material formed with a printed ground representing the meshes of lace curtains, and, in combination therewith, the ornamental printed figure representing the embroidered work of lace curtains.

**70,227.**—HAZLETON LAKE, Shelburne, Vt.—*Ox-shoe*.—October 29, 1867.—The fore parts of the shoe are extended inward to enable their being nailed to the inner sides of the hoof.

*Claim.*—Extending the forward part of the shoe A inward and forming nail holes through the inner edge of the said extended part, substantially as herein shown and described and for the purpose set forth.

**70,228.**—GEORGE A. LAMB, Jeffersonville, N. Y.—*Adjustable Label Holder for Mail-bags*.—October 29, 1867.—The hinged leaf is opened by a spring, and when closed down upon the label the two parts are held together by the strap through the slotted ends.

*Claim.*—The manner of construction and the mode of adjusting and securing the label therein, as set forth in the foregoing description.

**70,229.**—JOHN LEAKEN, Clinton, Ill., assignor to himself and F. H. BOGAR, same place.—*Churn Dasher*.—October 29, 1867.—The wings and arms are obliquely set on the vertical shaft, which is rotated by a hand crank.

*Claim.*—A dasher for churns provided with wings and arms, substantially as and for the purpose described.

**70,230.**—R. H. LECKY, Allegheny City, Pa.—*Cotton-bale Tie*.—October 29, 1867; antedated October 9, 1867.—One end of the hoop is rove through loops of the buckle; the other end is perforated at intervals and, being passed through a loop, catches on a projection which holds it.

*Claim.*—A clasp for bands or hoops used for baling cotton, said clasp consisting of the piece *x* provided with openings C D and *e* and a projection B, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

**70,231.**—GEORGE W. LEWIS, Providence, R. I.—*Horse-shoe*.—October 29, 1867.—The removable calks have straight and curved sides, alternately facing in opposite directions, to take a firm hold on the ground.

*Claim.*—The improvement in toe calkins described, which consists in making one of the faces *b* of each of the holding spurs *a* curved from the top outward toward the base, as and for the purpose specified.

**70,232.**—REES LEWIS, New York, N. Y.—*Safe Lock*.—October 29, 1867.—When the key is inserted it first displaces the arm of the spring and unhooks the vibrating plate from the shell. The guards of the key are forced out by the arbor; the shell is released and turns with the key. The tumblers are arranged behind a segmental guard plate, through whose slots the guards of the key project and raise the tumblers, while the jaws projecting from the shell operate the bolt.

*Claim.*—First, the key B, constructed as described,



with one or more sliding guards *c*, which are operated by springs *d* and which project into the tubular spindle of the key, or from the bit of the same, as herein set forth, for the purpose specified.

Second, the revolving shell *D*, in combination with the vibrating plate *E*, springs *f* and *g*, all made and operating substantially as and for the purpose herein shown and described.

Third, the device herein shown and described for preventing the shell *D* from turning, consisting of the stud or roller *b* on the roller *F*, fitting between two jaws *j j* projecting from the shell *D*, substantially as set forth.

Fourth, the key *B*, in combination with the revolving shell *D*, vibrating plate *E*, and slotted guard plate *H*, all made and operating substantially as herein shown and described.

**70,233.**—JOHN LIDDLE, Brooklyn, N. Y., assignor to JANE E. LIDDLE, same place.—*Heat Radiating Stove or Furnace for Fireplaces.*—October 29, 1867.—The three cylinders are arranged one within the other, each having a cover, and the two innermost covers have openings in them for the passage of the caloric current. The supply flues connect with the cellar or with the outer air. The air-tight flues to other rooms secure the passage of the heat. The direction and force of the draft is determined by a perforated box-damper that is arranged in the flue.

*Claim.*—First, the combination in a fireplace heater of the cylinders *A B* and *C*, with their tops *D E* and *F*, respectively, and a suitable opening or openings through the walls of the hot-air chamber *G* at or near its top for passing the hot products of combustion from the chamber *I* to the chamber *V*, substantially as herein above set forth.

Second, the combination with the hot-air chamber *G* and hot exit pipe *M* of the wings *O*, connected at the bottom, or their equivalents, by which all the hot air which enters the said hot-air exit pipe *M* is taken from the top of the hot-air chamber *G*, substantially as and for the purpose specified.

Third, the combination with a heater, constructed substantially as described, of the lining *A'*, which prevents the hot air from the room in which the heater stands passing into the hot-air flue *N*, or into the room above, substantially as hereinabove set forth.

Fourth, the combination with the hot-air chamber *G* of a fireplace heater constructed substantially as described, of an opening *f* for feeding the said hot-air chamber with air from the cellar or other source free from dust, substantially as and for the purpose described.

Fifth, the combination with the openings *d d* and *d'* in the top plate of the base of a furnace, constructed substantially as set forth, of the annular box damper *T*, constructed and operating substantially as hereinabove specified.

Sixth, the combination with the lining *A'*, frame *B'*, front *C'*, of the hooks *J*, substantially as set forth.

Seventh, taking the air from a point at or near the top of the hot-air chamber *G*, within the fireplace heater out through the casing *A'* and passing it into the hot-air flue *N* by means of a suitable exit pipe, substantially as described.

**70,234.**—JOHN L. LIVINGSTON, Mt. Carroll, Ill.—*Lime Kiln.*—October 29, 1867.—The kiln has bottom discharge; the furnaces are arranged on each side and discharge into the kiln. A cross-arrangement of flues counteracts inequality of draft on the windward and leeward sides.

*Claim.*—First, the draft holes *a* upon each side of the furnace *C*, crossing each other and entering said furnaces upon each side of the partition *D*, whereby the effect of the winds is counteracted and the draft in the furnaces regulated, as herein set forth for the purpose specified.

Second, the arrangement of the furnaces *C C* upon each side of the interior opening *A*, whereby the products of combustion are enabled to pass from such furnaces toward each other at the same time the lime is kept from the furnace as herein set forth, for the purpose specified.

**70,235.**—A. Z. LONG, Scranton, Pa.—*Car Brake.*—October 29, 1867.—The pivoted lever, connecting by rods with the sway bars, operates the pawls to dog

the toothed wheels and thereby rigidify the brake gear of the car.

*Claim.*—The toothed wheels *D* and pawls *E E'*, in combination with the levers *F*, connected with the pawls, and the lever *G*, substantially as and for the purpose set forth.

**70,236.**—GEORGE H. LUPTON, Cleveland, Ohio.—*Sash Fastener.*—October 29, 1867.—The vertical bolt is attached to the face of the lower sash, and when rotated the hook thereon, passing over the lower sash, engages a loop on the upper sash and locks the two together, at the same time drawing the lower sash tightly against the sill.

*Claim.*—The bolt *A*, hook *D*, and loop *E*, as arranged in its application to the shutters *B* and *F*, for the purpose and in the manner substantially as specified.

Also, bolt *A* and nib *H*, as arranged in combination with the sill *F'* and groove *G'*, as and for the purpose set forth.

**70,237.**—JAMES D. MARSHALL, Renick, Mo.—*Plow and Planter Combined.*—October 29, 1867.—The plow beams are attached by clevises to bars pendant from the fore end of the frame and pivoted to vertical posts at the rear of the axle. They are guided laterally by the swinging frame, which is operated by the driver's feet. They are lifted in the rear by levers and chains.

*Claim.*—The carriage *A*, plows *B*, vertical posts *a*, swing frame *D*, and stirrups *d*, when combined and arranged in the manner described.

**70,238.**—WM. H. MCCOY and A. WHEELER, Charlestown, Mass.—*Metallic Garter.*—October 29, 1867.—The hinged portions of the band are clasped together; the corrugated end of one passes through a loop in the other, and is detained by an eccentric pin.

*Claim.*—The stocking band or supporter *b*, when made in two parts, hinged together at *c*, substantially as described.

Also, the clamp wire *g*, having a band or eccentric *f*, working in combination with the grooves *h* to fasten the band, substantially as shown and described.

**70,239.**—G. D. MELOTTE, Watertown, N. Y.—*Clutch for Hay Forks.*—October 29, 1867.—As the link with the pulley attached pulls down upon the lower arms of the clutch the upper ones are closed upon the beam supporting the running rigging of the horse hay-fork. When the lower ones are spread apart the clutch is detached.

*Claim.*—First, the construction of a clutch, composed of two members, connected together by a bolt or pivot, upon which bolt or pivot said members are free to turn, in combination with the link *c*, as herein described, constructed and operated substantially as and for the purposes herein set forth.

Second, the combination of the shank *d* with the link *c*, and the combination of the shank *f* with a member of a clutch, as and for the purposes specified.

Third, the combination of a pole or stalc and socket *o* with the shanks *d* and *f*.

**70,240.**—J. C. MILLWARD, New York, N. Y.—*Ornamenting Glass.*—October 29, 1867.—Crystalized sheet zinc is laid in patterns or patches behind the painted or stained glass, imitating the appearance of pearl.

*Claim.*—The application of the crystalized sheet metal plate *B* to the under side of the glass against the paint or staining as herein described for the purpose specified.

**70,241.**—WM. MONEY, Paterson, N. J., assignor to himself and EDGAR W. CLOUD, same place.—*Fastening for Umbrella Runners.*—October 29, 1867.—The eccentric cam on the slide binds against the stick, and holds the umbrella in its distended position.

*Claim.*—The double lever eccentric cam *C*, in combination with the umbrella slide *a*, constructed and operating substantially as and for the purpose herein described.

**70,242.**—CHAS. MOORE and ARTHUR P. EMERY, New York, N. Y.—*Rotary Meter or Motor.*—October 29, 1867.—The inner cylinder is eccentric, and has radial pistons connected by links to a wrist that forms



the center of motion, around which the pistons revolve. A fixed crank is thus dispensed with, and the parts accommodate themselves to conditions incident to expansion and contraction from change of temperature. The heads of the revolving cylinder work in recesses in the case of the engine, so as to prevent friction and wear upon the pistons.

*Claim.*—First, the connecting links *m*, hinged together by the independent pin *o*, concentric with the outer cylinder, in combination with the sliding piston *i*, for operation together substantially as shown and described.

Second, the independent pin *o*, arranged for connecting the sliding pistons *i* by means of the links *m*, substantially as shown and described.

**70,243.**—JOSEPHUS MOORE, Bushnell, Ill.—*Plow*.—October 29, 1867.—The front of the frame is raised by the pivoted lever on top of the standard to which it is bolted. The rear of the frame is raised by lowering the axles on their pivoted arms.

*Claim.*—First, the combination of the beams *d* and *e* the rod *i* and the spring lever *k*, as and for the purpose described.

Second, the combination of the lever *n* and handle *t* with the axles of the wheels *a a* and the main frame *A*, in manner and for purpose specified.

Third, the combination of the elbow lever *v* with the spring *w* and connecting rod *u*, substantially as set forth.

Fourth, the combination of the elbow lever *v*, the spring *w*, and connecting rod *u*, with the rack plate *s* and lever *n*, substantially as described.

**70,244.**—JAMES A. MORRELL, Chicago, Ill.—*Pump*.—October 29, 1867.—The air chamber is attached to hollow plungers, upon which the cylinders reciprocate. The cylinders are suspended from and moved by power applied to the bails; the water passes from by the valve-ways into the air chamber, and is discharged thence by an eduction pipe.

*Claim.*—The air chamber *A*, provided with the arms *d* and *e*, and with a side opening or cavity *J*, cast with it and also supporting two stationary plungers *B*, in combination with the cylinders *C*, constructed with necks having annular cavities, and with their internal diameters enlarged below the necks as described, valves *D* and bails *I*, the several parts constructed and arranged substantially as and for the purposes specified.

**70,245.**—DAVID H. MORRISON, Dayton, Ohio.—*Iron Bridge*.—October 29, 1867.—The bevel-ended arch beams are counterparts of each other, excepting the terminal joints that fit against the "skew backs." The rods and universal washers being also made in duplicate, the material for bridges can be furnished without reference to the length of the bridge, except in as far as the amount of material is concerned.

*Claim.*—First, the universal washer *Bf*, constructed and applied in the manner and for the purpose specified.

Second, the combination and arrangement of the arch beams *C*, arch joint plates *g*, and universal washer *B f*, when constructed, connected and operating conjointly in the manner and for the purpose described.

**70,246.**—JAMES G. MOULTON Boston, Mass.—*Boot-jack*.—October 29, 1867.—The jack is pivoted to the frame, within which it stows compactly, and is held by a bolt, or is oscillated into working position, while the frame is grasped by the hand to steady the person.

*Claim.*—The combination and arrangement of the several parts of the machine, namely: the standards *a a*, the crop bar *a'*, the brace *b*, the jack *c*, the screws or pivots *d d*, and the bolt *e*, whereby a boot-jack is constructed, substantially in the manner and for the purpose above set forth.

**70,247.**—WILLIAM MULLALLY, Boston, Mass., assignor to HOWARD TILDEN, same place.—*Lamp*.—October 29, 1867.—Explained by the claim and illustration.

*Claim.*—Arranging the bottom of the cap *H* a little above the convex base *G*, leaving an opening between it and the base *G* for the air to pass out and

up and cool the chimney, and to prevent the cap from heating the base.

Also, the deflectors *J J*, extending down from the ends of the slot in a blaze cap with closed sides, substantially as described.

Also, making lugs or supports on the base plate to fit recesses in the side of the cap, so that the cap can be readily removed from the base plate to adjust the wick and clean out the base of the top.

Also, the pins or lugs on the base or bottom plate for the lower edge of the chimney to stand on, substantially as described.

Also, in combination with the cap and base, arranged substantially as described, the perforated bottom plate *A* for connecting the top to the lamp or oil vessel.

**70,248.**—JOHN MUSS, Quincy, Ill.—*Automatic Valved and Filtering Water Leader*.—October 29, 1867.—When the water in the cistern is below the proper greatest height, the flowing water passes through the filter into the cistern. As it attains the required height the passage is closed by the rising of the float, and the flowing water is turned off through the waste pipe, at the same time cleaning the strainer.

*Claim.*—An automatic water leader and filter, consisting of a waste-pipe, strainer, valves, and float applied to a water leader, and so constructed and arranged that the water shall pass through the strainer into the cistern when it requires filling, but when the cistern is filled, shall cleanse the strainer and pass out through the waste-pipe, substantially as herein shown and described.

**70,249.**—WILLIAM NEWBERRY, Clarksville, Mo.—*Churn*.—October 29, 1867.—The rotating dashers force the cream against the stationary wings.

*Claim.*—First, the crosses *E* and *F*, with the stationary wings *G* attached thereto, and arranged substantially as shown and described.

Second, the stationary wings *G* in the angles of a square or angular churn, whether the churn has more or less angles, substantially as described.

Third, in combination with the crosses *E F* and wings *G* the revolving dasher *C*, substantially as and for the purposes set forth.

**70,250.**—J. B. NEWBROUGH and E. FAGAN, New York, N. Y.—*Treating Caoutchouc, Gutta-Percha, &c.*—October 29, 1867.—Alternate sheets of gum and layers of powdered iodine are made into a pack, which is worked between heated rolls till incorporated. The material is then molded and baked.

*Claim.*—Gutta-percha or other gums combined with or treated in connection with iodine, in the manner described, or in any other manner by which the within-described result is obtained.

**70,251.**—W. F. NILES, Leominster, Mass.—*Rosette for Bridles*.—October 29, 1867.—The concavo-convex rosettes are molded out of softened horn, and serve as a base of attachment for the loop that holds the side strap of the headstall.

*Claim.*—As a new article of manufacture, a rosette, the body of which is made of concavo-convex disks of horn or hoof, united and combined together substantially as and for the purposes herein specified.

**70,252.**—GEORGE K. OSBORN, Brooklyn, N. Y.—*Lamp Burner*.—October 29, 1867.—The corrugated jacket is applied to the upper part of the wick tube so as to supply a current of air around the base of the flame.

*Claim.*—The construction and arrangement of the tube *B*, surrounded by the perforated disk *C*, the upper part *b*, corrugated and of less diameter than the lower part *c*, all supported at their points of connection by the short tube *A*, as and for the purpose specified.

**70,253.**—FRANK PAINTER, East Hampton, Mass.—*Tension Regulator for Looms*.—October 29, 1867.—The mechanical devices stretch the rubber threads, and hold them at a positive tension while the fabric is woven.

*Claim.*—In looms for weaving elastic fabric the construction and arrangement of the feed roll *B*, receiving the rubber threads from the threading and guide plates *c c'*, the adjustable tension roll *C*, bear-



ing against the feed roll B, and clamping the threads by means of the spiral springs *d d*, the friction roll D, take-up shaft E, under the adjustable tension roll F, that bears the rubber threads against said shaft by means of the spiral springs *d' d'*, all operating as described, whereby the rubber threads are stretched and held positively to any degree of tension while the web is being woven to produce fabrics of any desired elasticity, as herein shown and described.

**70,254.**—THEODORE P. PECK, Savannah, Ga.—*Smoke Stack*.—October 29, 1867.—The deflecting wings are attached near the top of the smoke stack below the spark sieve to arrest the progress of the sparks.

*Claim.*—First, the combination with the stack top or cover E, and sieve or spark catcher F, of the wings or plates *f*, arranged for action substantially as described.

Second, a smoke stack embracing an interior pipe A, outer shell D, with its top or cover E, having interior ribs or wings *f*, sieve F, and cone box B, constructed as described and provided with a ribbed or winged cone and outlets or port bevels, or the equivalents of these devices, for operation together, as herein set forth.

**70,255.**—JOSEPH PERKINS, Saco, Maine.—*Steering Apparatus*.—October 29, 1867.—The pinion on the tiller shaft gears into the rack at the rear of the table. As the table rotates, its sliding blocks and pivoted bars connect with and operate the rudder.

*Claim.*—In combination with the wheel A, shaft *a*, and gear *d*, the table F, having the rack *h*, grooves *m n*, and slides 1 2 3 4, attached to the arms *o p*, all substantially as and for the purposes set forth.

**70,256.**—CHARLES PETERSON, San Francisco, Cal.—*Setting, Reefing, and Furling Sails*.—October 29, 1867.—Explained by the claims and illustration.

*Claim.*—First, the within described mode of setting, furling, and reefing sails from the deck of a vessel by means of the swivel booms D, swivels G H, and ropes or chains 1 2 3 4 5 6 7 and 8, substantially as described.

Second, setting, furling, and reefing stay-sails and jibs by rolling them on the stay, substantially as described.

Third, setting, furling, and reefing the upper square sails from the deck by means of two sets of ropes or chains only operating together with the swivel booms D, substantially as described.

Fourth, a swivel boom, around which the upper square sails are rolled or furled, substantially as described.

Fifth, an india-rubber cap P, on the end of rotating spars, for the purpose and in the manner set forth.

Sixth, the swivel D, provided with friction balls, substantially as described for the purpose specified.

Seventh, an india-rubber roller over the periphery of a sheave, substantially as and for the purposes described.

Eighth, a stay for ships' sails, constructed of metal links, substantially as described.

Ninth, the combination of the swivel H, link I, and swivel G, substantially as described for the purpose specified.

Tenth, the india-rubber covered rollers *g* and *g'*, in combination with the india-rubber covered boom E, substantially as and for the purposes described.

Eleventh, the guide rope 5, in combination with the courses, substantially as and for the purposes described.

**70,257.**—E. S. PIERCE, Hartford, Conn.—*Feeding Screw Blanks*.—October 29, 1867.—The channel-way through which the blanks pass is composed of a number of corrugated zig-zag planes, so that when the blanks pass around a curve they are forced to follow in radial lines and are delivered in the proper position at the end of the curve.

*Claim.*—First, a zig-zag or serpentine channel-way formed of corrugated sides, substantially as herein described and for the purpose set forth.

Second, the devices *a b c d e f g*, for maintaining screw blanks, or other similar articles, in any desired position, while passing through a channel or groove, substantially as herein specified.

**70,258.**—E. W. PIKE, Galesburg, Ill.—*Cultivator*.—October 29, 1867.—Improvement on W. H. Smith's patent January 15, 1861. The pivoted shovel standards are laterally adjusted in the slotted bows attached to the beams. The handles are adjusted and secured by hooked bolts. The standards are secured with rods nearly on the line of draft.

*Claim.*—First, the combination of the plate S, jaws R, and coiled spring U, with the pivoted catch block P, and standard F, substantially as herein shown and described for the purpose set forth.

Second, the hinged plate W, and springs X, in combination with the cross beam B, and standards F, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the brace bar H with the beam A and cross beam G, substantially as herein shown and described and for the purpose set forth.

**70,259.**—CHARLES PLAGG, Darmstadt, Hesse.—*Railway Guide for Guiding Wagons*.—October 29, 1867.—The anti-friction rollers, running in the pivoted bars, let down and are secured alongside the wheels as a substitute for flanges when running on a city railroad track.

*Claim.*—The application of rail guides to wagons, carts, and other vehicles, with plain wheels, as used on common roads or paved streets, made and applied substantially and for the purposes as herein described and set forth.

**70,260.**—MOSES O. POTTER, South Scituate, R. I.—*Creel for Winding Yarn*.—October 29, 1867.—Explained by the claim and illustration.

*Claim.*—A creel plate (for creels used in transferring yarn from the spools to the section beams, &c.) with a hinge and catch, or latch, combined, with the spool spindle or skewer permanently affixed in said hinge, and swinging and latching upon the same alternately, as the case may be, and as herein described and set forth.

**70,261.**—WILLIAM QUAIL, New York, N. Y.—*Pocket Case for Printers' Bodkin and Tweezers*.—October 29, 1867.—The hollow handle contains a bodkin and tweezers, which are reversible on their screws when required for use.

*Claim.*—The combination and arrangement of the case B, with the bodkin *a* and the tweezers *c*, substantially as described and for the purposes set forth.

**70,262.**—FRANÇOIS RAYMOND, Woodhaven, N. Y.—*Shutter Catch*.—October 29, 1867.—The pivoted latch engages the catch on the sill, to which it is locked when the rod of the blind is raised and seated on the thumb knob.

*Claim.*—First, the pivoted laterally-moving bar A\*, in combination with the catch C and fixed stud *r*, on the shutter, substantially as and for the purpose specified.

Second, the arrangement of the pivoted bar A\* of the catch with reference to the rod *m* of the shutter, substantially as and for the purpose specified.

**70,263.**—ADAM R. REESE, Phillipsburg, N. J.—*Machine for Making Wooden Ware*.—October 29, 1867.—A series of straight, parallel cutters move upward against a block in a path slightly inclined to the axis of the vertical mandrel on which the block is chucked. The effect is to cut a series of concentric frustums of cones, of varying sizes, in a nest, with spaces between equal to the width of the kerf. To cut vessels tapering both ways, the kerf is made half way in and then the piece reversed, making kerfs to meet the former.

*Claim.*—The combination of the vertical mandrel revolving in a fixed position and carrying the block, with a series of parallel straight cutters moving in an inclined path nearly vertical at an angle to the block, for the purpose of simultaneously cutting a series of concentric frusta of cones from a solid block.

Also, the combination of the mandrel with the cutters and the guides, arranged and operating substantially as described.

**70,264.**—S. S. REMBERT, Memphis, Tenn.—*Breech-Loading Fire-arm*.—October 29, 1867.—One movement of the lever-guard throws the barrels forward and withdraws the spent cartridge case, which



is detained during the motion by pointed pins. By the opposite movement of the guard the barrels are locked to the abutment by the double key, into whose notch the catch of the lever-guard engages when closed.

*Claim.*—First, the breech-piece A constructed with recesses *a a*, which pass through the abutment *h*, substantially as described for the purposes specified.

Second, the double key B, operated substantially as described, to hold the barrels to the abutment, as described.

Third, the pointed screws *m* passing through the stock into the cartridge chamber, whereby the cartridge shell is held in place when the barrels are thrown forward, as herein shown and described.

Fourth, the combination and arrangement of the breech piece A, double key B, bar C, rod D, and lever E, substantially as described for the purpose specified.

Fifth, the T-end of the lever E having catch *e*, in combination with the notched bar of the double key B and spring *g*, substantially as described for the purpose specified.

**70,265.**—JACOB REMICK, Newburyport, Mass., assignor to AMOS L. WOOD and JOSIAH G. ABBOTT, Boston, Mass.—*Let-off for Looms.*—October 29, 1867.

—The delivery of the yarn is governed by the tension of the warp and effected by the return motion of the lay after beating up the filling, the forward beat of the lay taking up the fabric after being woven. The yarn is conducted over a guide roller, supported in bearings in one end of a bent lever pivoted to the frame, and at its other end pressed in contact with a friction wheel by a spring when the lay is beating up the filling, and thus preventing the let-off of the yarn at that time. The return motion of the lay increases the tension on the yarn, depresses the whip roll, and lets off the yarn.

*Claim.*—The combination of the whip roll *b* in the bent arms or levers E with the springs G, adjustable rod *k*, friction wheels F, and warp beam B, all constructed and arranged substantially as and for the purpose set forth.

**70,266.**—WALTER RING, Gosport, Ind.—*Tram Staff for Grinding Mills.*—October 29, 1867.—Explained by the claims and illustration.

*Claim.*—First, the gauge staff B, centered upon the millstone by means of the circular center fitting over and around the spindle *b*, provided upon its under side with the bush plate *m*, having the pivoted eccentric followers *n*<sup>1</sup> and surrounded by adjustable collar *m*<sup>1</sup>, with lugs *n*, all constructed and arranged as herein set forth.

Second, the combination of the tram and gauge staff B, with the spirit-levels K, substantially as herein shown and described and for the purpose specified.

**70,267.**—GERHARD RINGEN, Smith City, Mo.—*Plow.*—October 29, 1867.—The share and landside are cast in one piece, and with the moldboard are secured to the forked standard.

*Claim.*—The share D and the land side E when formed of one piece and combined with the post F, having two branches *f f*<sup>1</sup>, substantially in the manner herein shown and described.

**70,268.**—THOMAS ROBERTS and PATRICK LENOX, Lynn, Mass.—*Machine for Beaming Hides or Skins.*—October 29, 1867.—The sliding carriage is suspended by suitable ways and carries a slicking tool. The necessary reciprocating movements are imparted to them by the crank. The movable ear supports the skins and introduces them to the action of the slicking tool.

*Claim.*—First, the combination with the sliding carriage and mechanism for imparting a reciprocating motion to the same, of the hinged or pivoted beaming tool and spring, or equivalent mechanism, for actuating the same during the movements of the said carriage, in the manner herein shown and described.

Second, we claim the employment of the spring bar J, for the purpose of raising the tool I from off the skin during one movement of the tool, and pressing it down in contact with the skin during the opposite movement of it, essentially in manner as set forth and explained.

Third, in combination with the above described

arrangement of parts, the movable ear K, in manner and to operate as before described.

Fourth, the peculiar construction of the ear K, as composed of the truck frame *b*, circular platform *d*, and revolving tablet L, supported by the friction roller *g g*, &c., substantially as before described.

Fifth, in combination with the ear K, the device for locking it in position, consisting of the catch bar *i* and notched rail *k*, as and for the purposes set forth.

**70,269.**—DANIEL T. ROBINSON, Boston, Mass.—*Railway Car.*—October 29, 1867.—The axles and their supporting boxes are applied directly to the levers on which the platform is supported, and thereby dispense with the truck frame.

*Claim.*—So constructing the running portion of a railway car as to dispense with the ordinary truck, and apply the axle boxes directly to the levers or bars upon which the carriage rests, substantially in manner and for the purpose as described.

Also, the peculiar combination and arrangement with the carriage body or platform of the levers D D D, &c., and springs *d d*, applied and operating together in manner and for the purposes as before set forth.

**70,270.**—C. D. ROGERS, Utica, N. Y., and M. P. WILKINS, Jersey City, N. J.—*Holding Bristles in Brush Stocks.*—October 29, 1867.—The flanged ferrule clamps the bristles, the clamp being tightened on the bristles by being driven into the perforations of the head stock.

*Claim.*—First, a bunch of bristles in combination with a flanged ferrule, and these in combination with a hole or aperture and countersink in a brush stock, substantially as described.

Second, in combination, a ferrule, a bunch of bristles, and an attaching contrivance, substantially such as described, the combination being substantially such as set forth, and, also, these elements in combination with a hole in a brush stock.

Third, in combination, a flanged ferrule, an attaching contrivance, and a bunch of bristles, the combination being substantially such as described; and these, also, in combination with a hole and countersink in a brush stock, the combination being substantially such as set forth.

And we wish it distinctly understood that by the word bristles, in all these claims, we mean fiber, vegetable, or animal, suitable for the formation of brushes.

**70,271.**—B. J. ROMAINE, Haekensaek, N. J.—*Railroad Chair.*—October 29, 1867; antedated May 1, 1867.—The chair is long enough to clasp the rail from tie to tie, its ends resting upon them. It is drawn together by screw bolts and assumes the shape of the rail to a point below the flanges of its tread.

*Claim.*—The wrought-iron plates C upon each side of the rail, their upper portions bent to receive the flange of the rail and embrace the web lying flush therewith, their lower ends bent at right angles, and adjusted nearer to or further from each other by means of the screw *a*, and nut *b*, the projecting portion of the curved upper part under the flange of the rail resting upon the ties as herein described for the purpose specified.

**70,272.**—E. P. RUSSELL, Manlius, N. Y.—*Lighting Street Gas-burners.*—October 29, 1867.—The gas from the small burner burns constantly and is in readiness to ignite the gas from the larger one.

*Claim.*—A small supplemental burner A to be kept burning constantly, when operating in connection with a main burner, substantially as and for the purposes set forth.

**70,273.**—SOCRATES SCHOLFIELD, Providence, R. I.—*Braiding-machine Carrier.*—October 29, 1867; antedated October 16, 1867.—The outer eye through which the thread passes from the spool yields to the tension of the thread as the carrier performs its circuitous course. The centrifugal force of the upper portion of the carrier is counterbalanced by an enlargement between the driving horns and gears of the machine.

*Claim.*—So arranging the outer or extreme eye or point of a braiding-machine carrier or racer, that it may be made to yield with the tension of the thread,



as such carrier or racer passes around the gears, or in the grooves of a braiding machine, substantially as described.

Also, balancing the carrier or racer upon the edges of the groove in which it runs, substantially as specified.

**70,274.**—HENRY SCHREINER, Philadelphia, Pa.—*Attaching Horseshoes.*—October 29, 1867.—The enlarged heads of the bolts engage in the conical slots in the shoe. The belts are attached and tightened by clinching the tongue of one through the slot of the other.

*Claim.*—First, attaching the belts to the sole B by means of the tapering mortises *b'* and the corresponding enlargements *d''* on the lower ends of the said belts, substantially as described and set forth.

Second, the combination of the belts C and D with the enlarged heads *d''* and clasp *d' c'*, operating substantially as described and for the purpose set forth.

**70,275.**—A. P. SEYMOUR, Hecla Works, N. Y.—*Boot Jack.*—October 29, 1867.—The pivoted arms slide in slots so as to accommodate themselves to the size of the boot.

*Claim.*—First, the sliding jaws C C' pivoted together at their inner ends by the pin B, sliding in the groove *a* of the foot piece A, said jaws guided in their inward and outward movements by means of the lugs *b b*, as herein set forth for the purpose specified.

Second, the feet D D, applied to the foot piece A in such a manner as to be adjusted by the movement of the jaws C C', substantially as shown and described.

Third, the construction and arrangement of the foot piece A, sliding jaws C C', and feet D D, substantially as described for the purpose specified.

**70,276.**—THOMAS SHIPTON, Newark, N. J.—*Heater.*—October 29, 1867.—The heater is placed over the furnace, and the boiler three-fourths filled with water. The boiler tubes run through the boiler to the upper part of the chamber. A steam-pipe surrounds the boiler and has vertical pipes ascending therefrom, the condensed steam in which runs back into the boiler. The usual pipes convey the heated steam over the building.

*Claim.*—First, the arrangement of the pipe C, circular pipe *b*, upright pipes *d*, boiler *a*, and air pipes *f h*, as herein described for the purpose specified.

Second, the steam pipe encircling the boiler, with upright pipes, all arranged in the manner and for the purpose substantially as described.

**70,277.**—HARRISON SMITH, Phillipsburg, N. J.—*Composition for Stuffing Wood.*—October 29, 1867.—For imparting a smooth surface to wood before painting and after priming. Composed of calcined clay, 2 lbs.; white lead, 4 lbs.; whiting 4 lbs.; japan and varnish to give it liquid condition.

*Claim.*—The mixture composed of the several ingredients, and mixed together in about the proportions, substantially as described, and for use, substantially as and for the purpose specified.

**70,278.**—HENRY K. SMITH, Boston, Mass.—*Sleigh Bell.*—October 29, 1867.—The rivet passes through the eye of the tongue hook and is upset after passing through the strap.

*Claim.*—The improved construction of the tongue hook, and arrangement of it, the rivet, the bell, and the strap as described.

**70,279.**—JOHN L. SMITH, Penn Township, Pa.—*Car Coupling.*—October 29, 1867.—The self-adjusting frame is suspended from one end of the platform of a car and extends down nearly to the rails, so that when a car leaves the track it becomes disconnected from the forward car.

*Claim.*—The construction and arrangement of the devices E J M R and P, as herein described and for the purposes set forth.

**70,280.**—CHARLES L. SNYDER, Hardin, Ill.—*Threshing Machine.*—October 29, 1867.—An endless screw is formed on the end of the fan shaft, which, through its connections, operates the grain shoe. The sliding feed board is detachable at pleasure.

*Claim.*—First, arrangement and employment of

the endless screw *d'*, in combination with the shaft E, zigzag *a*, and separator F, as and for the purpose shown and described.

Second, the construction and arrangement of the feed board G, when applied to the frame A, as herein set forth.

**70,281.**—CHARLES F. SPAULDING, St. Johnsbury, Vt.—*Spinning Metals.*—October 29, 1867.—The circular metallic plate is reduced to a concavo-convex form, or receives a series of concentric corrugations, whereby it is made to take the shape of the concave face of the rotary die wheel of the machine.

*Claim.*—The arrangement and combination of a lever E with the spinning wheel or wheels and die wheel, substantially as set forth.

Also, the die wheel, as constructed, with the peripheral opening *k* and the groove *q* arranged in it, substantially as and for the purpose hereinbefore set forth.

Also, the combination and arrangement of the supporting roller G and its adjustable devices, as described, with the die wheel and its shaft, movable lengthwise, as set forth.

Also, in combination with the spinning wheel supporting lever and the die wheel supporting lever and the die wheel shaft, arranged as described, the devices by which the vertical adjustment and longitudinal movements of the said shaft may be effected, as set forth.

Also, the arrangement and combination of the separate handle F and its fixtures, substantially as described, with the lever E and the spinning and die wheels, arranged as explained.

**70,282.**—NATHANIEL B. SPOONER, Plymouth, Mass.—*Hinge and Fastener.*—October 29, 1867.—The disk of the lower hinge has a small pin that engages in a recess in the disk below for fastening the shutter.

*Claim.*—In a blind hinge the combination of the upper disk *a*, having the pintle *b* set in the socket *d*, the pin *i* set in the holes *i'* on the lower hinge, the catch pin *e* in the pintle of the upper hinge and the spiral spring *h*, all arranged and operating as and for the purposes herein described.

**70,283.**—ALBERT STALEY, Clinton, Iowa.—*Slide Valve for Steam Engines.*—October 29, 1867.—The disk is arranged on the outside of the valve chest attached to a stem or shank of any ordinary slide valve and reciprocating with it. The inner surface of the disk contiguous to the valve chest is recessed to afford space for the steam, which, by pressing outward against the disk, balances the valve. The perimeter of the disk has packing rings to prevent the escape of steam.

*Claim.*—The balancing disk E, of circular or other form, on the outside of the valve chest, provided with packing *e i g*, in combination with the valve B and stem *d*, to which the said disk is attached, substantially in the manner and for the purpose set forth.

**70,284.**—JAMES STEWART, Money Creek, Minn.—*Attaching Axes to Handles.*—October 29, 1867.—Two bolts are secured to the handle, the front one with a flange to protect the handle in splitting wood. When passed through the eye of the arc a washer and nuts secure the attachment.

*Claim.*—Improved fastening for axe handles and other tool handles, consisting of a plate *c* attached by a clip D, and secured by a bolt *a* to the handle, in combination with the bolt *e* and wedge *d*, constructed and arranged to operate as herein described.

**70,285.**—RANSOM E. STRAIT, Battle Creek, Mich.—*Pump.*—October 29, 1867.—The pipe with the flanged pioneer point is bored into the ground. The detachable spout, to which are attached the handle and piston, is secured on top of the pipe, which is then ready for work.

*Claim.*—First, the detachable spout C and rest or fulcrum E, constructed as specified and operating as set forth.

Second, the spring *h*, valve *e*, and valve seat *f*, constructed as described, and operating as set forth and for the purposes specified.

Third, the arrangement of the cup or spout C, barrel A, reducing socket *f*, joint A', barrel B, and conical point G, and valves *b'* and *e*, plunger F, standard



E, and handle D, the whole constructed and operating as described and for the purposes set forth.

**70,286.**—B. F. STURTEVANT, West Roxbury, Mass.—*Blower Wheel*.—October 29, 1867.—The rotary blower has curved flanges attached to side disks and to a central ring, which is supported by radial arms of the hub.

*Claim.*—The arrangement of the blades and the frusto-conical disks relatively to each other and to the flanged rings, substantially as and for the purposes described.

**70,287.**—SAMUEL K. SUTTON, Paterson, N. J.—*Sled Brake*.—October 29, 1867.—The dog is raised from the track by the spiral spring, except when projected down by the crank lever.

*Claim.*—The combination of the dog C with the toggle *a a'* and the shaft B, provided with the spring *e* and the lever E, all arranged and applied to the sled to operate in the manner substantially as and for the purpose set forth.

**70,288.**—JAMES SWAN, Paterson, N. J.—*Machine for Stripping Willow*.—October 29, 1867.—The willows, one at a time, are passed through the hollow mandrel, the ends being grasped by the jaws. The centrifugal force drives the V-edges toward the willow as the mandrel rotates. The jaws are opened and closed automatically to release the willow and grasp the succeeding one.

*Claim.*—First, the stripping device, consisting of the rotating head or hub *a*, having the transverse groove *b*, strippers D D, each composed of two parallel plates *c c*, having openings *e*, whose outer edges are V-shaped, the plate of one stripper sliding between the plates of the other, said plates secured together at their outer ends by the pins *d*, and to the hub *a* by the cap E, the hub and strippers surrounded by the elastic band F, substantially as described for the purpose set forth.

Second, the reciprocating slide O, provided with the jaws R R and levers Q Q, the uprights T T T' T', endless chain N, shafts L H I, connected by bevel gear *i*, driving belt J, fixed and loose pulleys on the mandrel B, and shafts H I, all arranged and operating as and for the purpose specified.

Third, the sliding tube G, fitted within the mandrel B for guiding the willow to the strippers, as herein shown and described.

**70,289.**—CHARLES THOLL, Boston, Mass.—*Carrriage-shaft Connection*.—October 29, 1867.—The journal has its bearing in a forked arm, and is embraced by a pad of vulcanized rubber. The journal turns within the rubber, which also answers as a spring to the latch.

*Claim.*—Improved shaft connection, constructed substantially as described, viz: of the open box B, with its cover and catch, and the strip of rubber, or its equivalent, arranged and applied together to the journal of the forked arm F and to the axle, substantially in the manner as hereinbefore specified.

**70,290.**—W. R. THOMAS, Catasauqua, Pa.—*Flask for Casting Car Wheels*.—October 29, 1867.—The wheels are cast in molds, composed of sand and metal. The sand molds that form the sides of the wheels are made in separate flasks, after which they are applied to a metallic ring, which forms the rim of the wheel, and at the same time chills and hardens it.

*Claim.*—The metal ring G, constructed with both an upper and lower shoulder for upper edge of the flask C and lower edge of flask A to bear against, in combination with said flasks, and with the clamps J J, constructed and applied as shown, all substantially as described.

**70,291.**—WM. H. TRUSTY, Philadelphia, Pa.—*Wagon Jack*.—October 29, 1867.—The adjustable pivoted lever of the braced standard is retained in position by the step on the pawl rod, which engages a tooth on the ratchet bar.

*Claim.*—First, the pawl and ratchet surface, in combination with the lifting bar, when such pawl is provided with a lifting lever, substantially as and for the purpose described.

Second, in combination with the above, the series

of notches to the standard of the jack, as herein described for the purpose specified.

**70,292.**—STEPHEN D. TUCKER, New York, N. Y.—*Machine for Cutting Paper, Pasteboard, &c.*—October 29, 1867.—When the pulley is connected with the shaft, an oscillating oblique movement is given to the knife by means of the connecting gearing. The wrist pin working in the outer part of the slot in the lever while cutting, gains power at the loss of speed, but the pin working in the inner part of the slot, while being thrown up, gains speed with loss of power.

*Claim.*—First, operating the knife G through the medium of the screw N, worm wheel L, lever J, provided with a slot *d* to receive the wrist pin *e* of wheel L and the pitman I, all arranged to bring the knife slowly down while at work, and throw it up with a comparatively quick movement, substantially as shown and described.

Second, operating the clutch Q to connect the driving pulley P with shaft O, and disconnect it therefrom by means of the rod R, actuated automatically from the worm wheel L, substantially as set forth.

Third, the treadles *ss'*, arranged in connection with the slide rod R to admit of the pulley P being connected with the shaft O at the will of the operator, substantially as described.

Fourth, the spring or brake V, operated automatically from the rod R, substantially as set forth.

**70,293.**—JOHN UNDERWOOD, Muscatine, Iowa, assignor to EPHRAIM BALL, Canton, Ohio.—*Machine for Cutting Teeth of Wheels*.—October 29, 1867.—The wheel is cast with a recess behind, where the cogs are to be cut, so that the tool may pass through beyond the cogs, thus clearing its way. The gear to be cut is placed upon the end of a shaft that is hung on an adjustable face plate that leans upon a slide rest, which receives a vertical motion. The crank wrist connects to a pawl that is suspended from the shaft by straps. The shaft has also upon it a ratchet wheel, which is dogged by a pawl, and turns as the shaft is vibrated by the action of the rod and its crank connection. The intermittent rotation of the ratchet wheel is communicated to the shaft and its gear wheel, which is acted on by the cutter.

*Claim.*—In combination with the mechanism for producing the intermittent rotating feed motion given to the gear that is being cut, the mechanism for producing the vertical motion toward the cutting tool, substantially as herein described.

**70,294.**—JOHN UNDERWOOD, Muscatine, Iowa, assignor to EPHRAIM BALL, Canton, Ohio.—*Babbitting and Drilling Jig*.—October 29, 1867.—The frame of the harvester is cast in one piece, with recesses and depressions for the shaft journals and gears. To prepare the journal boxes or bearings, the jig is laid into the frame, and while so placed and supported the Babbitt metal is poured around all the journal portions. The caps for the journal boxes and bearings are Babbitted by the same jig.

*Claim.*—First, a Babbitting jig or former, constructed and arranged substantially as herein described, which, in conjunction with the bearings on a cast-iron frame, shall control the position of and give shape to the Babbitt linings of said bearings, as and for the purpose herein set forth.

Second, the drilling jig herein described, as and for the purpose set forth.

Third, the combination of the Babbitting jig and the drilling jig for arranging and fitting the journal bearings and boring the screw-bolt holes of the caps of the journal boxes, as herein described and represented.

**70,295.**—JOSEPH D. VAN BENTHUSEN, New Orleans, La.—*Bale Tie*.—October 29, 1867.—The hoop is secured in a triangular aperture in the metallic plate, being permanently lapped around the rectangular edge, and adjustably attached round the diagonal edge.

*Claim.*—Constructing a cotton-bale tie with a triangular opening, as shown, when the diagonal side thereof is beveled, substantially as described and for the purpose set forth.

**70,296.**—JOHN VAN PELT, Perry, Ill.—*Hull for Vessels*.—October 29, 1867.—Transverse trussing



braces are secured to the under side of the floor beams to strengthen the hull of the vessel.

*Claim.*—The transverse trussing braces or floor timbers *a a*, in combination with the straight floor beam *A*, substantially as described and set forth.

**70,297.**—RICHARD WALKER, Milford, Mass.—*Let-off Motion for Looms.*—October 29, 1867.—The self-adjusting friction brake regulates the pressure on the yarn beam according to the fulness of the latter, so as to maintain an equal tension on the yarn. When the beam is full, the pad bears on the surface of the yarn and keeps the bar down, exerting its greatest friction. As the yarn winds off, the pad and bar rise together and reduce the friction.

*Claim.*—First, the combination with a yarn or dresser beam of a brake *E* attached to a curved lever *G*, the bar *K* provided with a slide *f* and spring *h* and the arms or levers *L M*, substantially as and for the purpose set forth.

Second, the combination of the vibrating bar *K*, provided with a spring *h*, a graduated scale and indicator *m*, with the arms or levers *L M*, whereby the pressure of the pad *p* on the yarn of the yarn beam may be regulated and adjusted.

**70,298.**—S. H. WALLACE, Parnassus, Pa.—*Miner's Pick.*—October 29, 1867.—The head is secured on the handle by a set screw and the tongues of the points are fitted into slots in the head and secured thereto by set screws.

*Claim.*—Making the head or points, or both head and points, of picks for mining purposes, removable substantially as and for the purposes hereinbefore set forth.

**70,299.**—B. D. WASHBURN, Roxbury, Mass.—*Hinge.*—October 29, 1867.—The plate is cut with two rectangular bends, having three portions of about equal length, two of which are perforated for screws and the end of the other turned into a pintle socket.

*Claim.*—As a new article of manufacture a blind hinge formed of the three parts or members *a b c*, when these (having the relative arrangement or disposition as shown) are cut in one piece from sheet metal, substantially as set forth.

**70,300.**—WILL. H. WAYNE, Philadelphia, Pa.—*Shutter Fastener.*—October 29, 1867.—The shutters are adjusted to be more or less tightly closed by the snap corded attachment which is regulated by a keeper.

*Claim.*—The shutter fastening above described, consisting of the cords *A A*, having the snaps *a a*, and the tassels *C C*, and provided with the elastic ring or thimble *B*, substantially as and for the purpose specified.

**70,301.**—SAMUEL WEBB, Joliet, Ill.—*Water Wheel.*—October 29, 1867.—The metallic buckets are set in the grooves of the parallel wooden disks. The upper floats utilize an extra head of water. An air tube is inserted through the boxing to give steadiness to the motion of the wheel.

*Claim.*—The combination of the air tube *b*, the floats or buckets *d d*, the lid *c*, and buckets *h h* of the peculiar shape described, all constructed and arranged as and for the purposes set forth.

**70,302.**—P. L. WEIMER, Lebanon, Pa.—*Door Stop.*—October 29, 1867.—The suspended figure attached to the door has a wedged projection from one foot that passes beneath the door and is cramped by the falling figure.

*Claim.*—The arrangement of a bent lever having a flattened projection *c* at the end of one arm to pass under the door, the other arm being weighted so as to tilt the projection *c*, and wedge it in place.

**70,303.**—JAMES T. WHIPPLE, Chicago, Ill.—*Hand Truck.*—October 29, 1867.—The truck bed is made concave to accommodate the removal of rolling freight. The corrugated bar, on which the truck rests while loading, prevents its sliding back. The stop bar, swinging on the double slotted clevis, retains its hold of the load.

*Claim.*—First, corrugated strap *T*, when attached to the sharp curved part of the rear end of the truck, substantially as and for the purpose set forth.

Second, clasp *L*, when used for the purpose of adjusting said holding and stop bar *P*, substantially as and for the purpose described.

**70,304.**—W. W. WHITING, Brooklyn, N. Y.—*Fastening Metal Plates upon Door Hinges.*—October 29, 1867.—The embellishing plate is attached to the face of the hinge by lugs that enter corresponding recesses and by projected eyelets that are secured in the hinge by pins.

*Claim.*—Providing the plate *C* with one or more lugs *b b*, and with an eye *e*, and securing it to the plate *B* of the hinge, by means of a pin or screw *e*, substantially as and for the purpose herein shown and described.

**70,305.**—GEORGE WHITTLE, New York, N. Y.—*Coal Screen.*—October 29, 1867.—The cylindrical screen is rotated within the enclosing box by a winch. A section of the cylinder is hinged for introduction and removal of contents.

*Claim.*—The cylinder coal screen *B*, and the screen box *A*, when the same are constructed, arranged, and operating substantially as shown and described, for the purposes set forth.

**70,306.**—ISAAC C. WILLIAMS, Philadelphia, Pa.—*Lay-away Vat for Tanning.*—October 29, 1867.—The vat has an inclined supplementary bottom, detachable hide-supporting frames and interstitial supplementary sides and ends which support the hides while the liquor is changing.

*Claim.*—First, the employment of the interstitial supplementary sides and ends *E*, substantially as described, for the purpose of allowing a more free and perfect escape of the spent liquor, and the admittance of the fresh, as described.

Second, the application of the supplementary inclined bottom *C*, substantially as described, for the purpose of causing the spent liquor to run off from between the hides in a perfect and rapid manner.

Third, the employment of the skeleton frames *D D*, or their equivalents, substantially as described, for the purpose of preventing too great a pressure between the layers of hides.

**70,307.**—MOSES S. WOODWARD, Marlsholton, Pa.—*Device for Measuring Horses' Feet.*—October 29, 1867.—To the center plate are attached pivoted slotted clips for measuring horses' feet. When adjusted the clips are secured by set screws.

*Claim.*—First, as an improved article of manufacture, a device for measuring horses' feet for fitting the shoes thereto, made substantially as herein shown and described.

Second, the expansion and contraction bars *B B*, when arranged on the center plate *A*, substantially as and for the purpose herein shown and described.

Third, the manner of arranging the quarter measures so that they can be moved in either longitudinal or transverse direction, as specified.

Fourth, the set screws, in combination with the bars *B* and *E*, substantially as set forth, so as to hold the same in any desired position.

**70,308.**—EDWARD WRIGHT, Woreester, Mass.—*Operating Picker Staff for Looms.*—October 29, 1867.—When the picker staff is thrown forward the front of the picker stand rocks down upon the base into which its tongue enters. As the oscillating picker stand raises the lever in its rear it operates the spring. When the picker staff is released it is thrown back by the spring, thereby avoiding the concussion of the point of the shuttle against the picker on the staff.

*Claim.*—The combination with the lever *E* and its arm *I* of the arm *F*, rod *G*, and spring *H*, substantially as and for the purposes set forth.

**70,309.**—HORACE WYMAN, Woreester, Mass.—*Loom.*—October 29, 1867.—The pattern chain and its levers and pawls are combined with a compound lever, to one end of which one set of drop boxes is connected. At its other end, and at intermediate points, connections are made to a series of sliding racks operated from the pattern cylinder. The positions of these racks determine the movements of the compound lever and the extent of movement given by the lever to the shuttle boxes.



*Claim.*—The mechanism for effecting the changes of the shuttle boxes, substantially as set forth.

**70,310.**—JOSEPH ADAMS, Janesville, Wis.—*Mop Wringer.*—October 29, 1867.—The frame is clamped to the side of the pail and the rollers brought together by pressure on the treadle. The jaws are geared together to cause them to work coincidentally.

*Claim.*—A wringer formed by the two arms E E<sup>1</sup>, cogged segments E<sup>2</sup> E<sup>2</sup>, lever F, and roller G, positively actuated by a winch G, and attached to the outside of the tub, and in such manner that the rollers shall be above the same, substantially as set forth.

**70,311.**—WILLIAM ALLEN and LUTHER ROSS, Worcester, Mass.—*Harvester Guard Finger.*—October 29, 1867.—The steel plate is inserted into the slot of the guard finger so as to form edges against which the sickle sections cut. Its front end rests in a recess and its notched rear end is held down by the lip on the guard. The plate is corrugated longitudinally to diminish the bearing surface with it of the cutter.

*Claim.*—First, the combination with a guard A of the nipple e, having a notch or lip f to hold the plate down, arranged substantially as and for the purposes set forth.

Second, the corrugated plate E, made as described, in combination with the guard or finger A and nipple e, arranged substantially as and for the purposes set forth.

**70,312.**—IRA R. AMSDEN, Buffalo, N. Y.—*Hydrostatic Scale.*—October 29, 1867.—For ascertaining the weight of cargo while the boat is floating. The counterweighted float rises in the cylinder, and the connecting cord runs over a shaft and actuates a gearing and dial hands which indicate the weight. A similar float indicates the depth of bilge water, which must be removed or considered in the calculation.

*Claim.*—First, the use of mechanism with a dial, and one or more revolving hands, when applied to hydrostatic scales, substantially as and for the purposes set forth.

Second, the combination of the cylinder B, buoy D, with the cord or chain E and weight F, substantially as and for the purpose described.

Third, the tube G, in combination with the weight F and buoy D, for the purpose and substantially as described.

Fourth, the chamber H, for the purposes and substantially as set forth.

Fifth, the application and use of the apparatus herein described, as a bilge water indicator, or a liquid gauge, substantially as described.

**70,313.**—AARON C. BADGLEY, Earleville, Ill.—*Beehive.*—October 29, 1867.—Explained by the claims and illustration.

*Claim.*—First, the base B, having inclined boards b b, forming a bottom for section A, said base being provided with openings d d' leading into chambers f g g, which chambers are constructed as set forth, having their respective outlets, the whole constructed and arranged in the manner and for the purposes specified.

Second, the vestibule k, composed of the blocks r, having passages s s, and leading into the tube N, which extends outside of the hive, and is provided with the metal shields v v, when constructed as described, and used in combination with the bottom boards b and chambers f and g g, having their communicating passages in the manner and for the purposes set forth.

Third, the upper section A, having a front formed into a hinged door h', which may be opened into the vestibule k' and false passages s' s', which are formed in the front of this section, all constructed and used in the manner and for the purposes set forth.

Fourth, the combination of the sections A B, with their tube entrances N N', having metal shields v v' and vestibule k' with entrance c', the whole constructed, arranged, and operating as herein described.

**70,314.**—A. C. BAKER and N. O. HOYT, Lafayette, N. Y.—*Wheeled Harrow.*—October 29, 1867.—The teeth are pivoted to arms, and the angle therewith determined by segment braces. The arms are pivoted in front to a bar of the wheeled frame, and supported by chains from the rear bar of the same.

*Claim.*—First, the arms a a a, the teeth t t t, and adjustable braces b b b, in combination with each other, substantially as and for the purposes described.

Second, the same parts, in combination with the frame E, lever bar F, and chains f f f, made and operated substantially as and for the purposes described.

Third, the parts within and attached to the frame E, as above described, in combination with the axle A, wheel B B, tongue C, and seat D, substantially as and for the purposes described.

**70,315.**—JOHN C. BAXTER, Washington, D. C.—*Metallic Check Piece for Bridles.*—October 29, 1867.—The cheek straps are of metal, and have eyes for the attachment of the bit ring straps and the poll strap.

*Claim.*—A metallic check piece for bridles, with or without the blinder E, substantially as described.

**70,316.**—L. H. BIGELOW, Worcester, Mass.—*Vase for Holding Flowers.*—October 29, 1867.—The stem has a series of cups of gradually decreasing upward diameter, to give the required conical contour to the flowers contained therein.

*Claim.*—First, a vase provided with a series of cups or vessels arranged one above the other, substantially in the manner and for the purposes herein described.

Second, the combination with the pedestal of the vase of the detachable cups or vessels, under the arrangement herein shown and set forth.

**70,317.**—C. F. BRACKETT, Brunswick, Me., and GEORGE L. GOODALE, Saco, Me.—*Process of Extracting Saline Matters from Marine Plants.*—October 29, 1867.—Crystalline substances are separated from the macerated tissues of marine plants, which are placed in a vessel whose bottom consists of a parchment membrane. The vessel is suspended in a shallow pan of pure water which by dialysis gradually absorbs the crystallizable matters which pass through the membrane.

*Claim.*—The application of dialysis to the extraction of the saline constituents of marine plants, in the manner and for the purposes specified.

**70,318.**—FRANKLIN H. BROWN, Chicago, Ill., assignor to himself, EDWARD F. PEUGEOT, and LEMUEL H. FLERSHEIM, same place.—*Machine for Finishing Baskets.*—October 29, 1867.—The rotating inclined shaft is made hollow for feeding the filling into the center of the finished work. The twister on the end of the shaft performs its work while passing around the rim of the basket, hooking in and carrying the uprights around and working them into a border of uniform appearance.

*Claim.*—First, wheel E, in combination with hooks a, and shaft C, as shown and for the purposes set forth.

Second, in a machine for finishing the edges of baskets the universal joint N, in combination with twister E, and shaft C, as and for the purposes set forth.

Third, wheel H, in combination with adjustable wheel H', and set screw m, as and for the purposes set forth.

Fourth, in a machine for finishing the edges of baskets, the roofed apron J, as and for the purposes set forth.

Fifth, the general construction and arrangement of mechanism, substantially as shown and for the purposes specified.

**70,319.**—SAMUEL C. BROWN, Richmond, Ind., assignor to himself and JAMES SMITH, same place.—*Chair for Schools, &c.*—October 29, 1867.—One tripod is inverted upon the other, their apexes having an interposed elastic disk and being secured together by a screw bolt and nut. The feet of the tripods are secured to the chair seat and floor, respectively.

*Claim.*—The combination of the seat supports B and B' with the spring D, elastic washer E, and bolt C, and nut C', constructed and arranged to operate substantially as and for the purpose set forth.

**70,320.**—G. W. R. COMBS, Alliance, Ohio.—*Strap Holding Device.*—October 29, 1867.—The strap is received in a tapered box in which it is jammed by a wedge plate and secured by a pin which enters a hole in the strap.

*Claim.*—The metallic box A, contracted longitudi-



nally and vertically at its end, having its sides  $\alpha\alpha$  turned so as to form a groove to allow the plate C to be secured and connected to the leather at bottom by the bar B, in the manner as herein described and for the purposes set forth.

**70,321.**—JOSEPH C. COULT, San Francisco, Cal.—*Apparatus for Reducing Quicksilver Ores.*—October 29, 1867.—The ore is exposed in trays in the chambers to the heat of the fire and the fumes pass out at the top to the soot chamber, and thence to the reducing chamber, and by the bottom pipes to the open dry chamber, where the mercury is collected. Escaping fumes are mainly collected in the water bath and the remainder pass to the exit flue.

*Claim.*—First, the fire chamber B B, ore chambers C C, and vapor chamber D, arranged together, and with a steam tank above them, as and for the purpose set forth.

Second, the arrangement of the pans within the chamber D, with alternate spaces between their sides and the walls of the chamber, as and for the purpose set forth.

Third, the silvered wire screens  $c c c$ , in the condensing flue H'', used as and for the purpose set forth.

Fourth, the arrangement of the flues H H' H'', water tank I, and partitions J J, substantially as and for the purpose set forth.

Fifth, the arrangement of the steam pipe F, and its orifice  $k'$  with the orifice  $k$ , for creating a draft as and for the purpose set forth.

**70,322.**—SAMUEL CUDDICK, Pembroke, Me.—*Puddling and Heating Furnace.*—October 29, 1867.—The concavo-convex door has an inside contracting flange into which firebrick are set with the outer edges of the brick conforming to the shape of the door flange. Metallic pillars and skeleton columns support the brick-work of the chimney stack. Other devices are cited in the claims.

*Claim.*—First, the shape and form of the inner door and its brick lining of peculiar shape, and the flanges upon the door with its slides, pins, and pin-holes, as above described.

Second, as an improvement in the applying the water, by the improved manner of wrought iron tubing, detached and renewable at pleasure, instead of being cast in the doors, frames, and other castings of the furnace.

Third, the form of the application or introduction of water over the air blast box by means of detached wrought iron tubing, instead of the cast iron tubing in the air blast box, with the flange of the air blast box attached to support the bottom of the furnace, instead of having the air box resting upon it.

Fourth, the water tanks, or chambers, in the fire grates as described, and in the introduction of water through the bearers or supporters of the furnace bed or bottom, and in the under side of the bottom or bed of the furnace, as indicated by the drawing.

Fifth, as an improvement in the chimney  $u$ , the skeleton columns as above indicated by Figs. 1 2 and 12.

**70,323.**—ISAAC N. DANN, New Haven, Conn., assignor to NEW HAVEN FOLDING CHAIR COMPANY.—*Folding Chair.*—October 29, 1867.—One pair of legs is pivoted to the seat and the other to the back, which is pivoted to the seat. The illustration will explain the action.

*Claim.*—The combination of the inflexible or rigid seat A with the cross legs F and B, and back D, when the joints of the several parts are arranged relatively to each other, in the manner as herein set forth.

**70,324.**—SOLON DIKE, New York, N. Y.—*Truss and Supporter.*—October 29, 1867.—The elastic band passes around the person above the hips, and the flexible body brace has two pads, adjustable to the locality and character of the rupture or prolapsus.

*Claim.*—The flexible body brace C, provided with the adjustable pads  $d d$ , arranged in combination with band B and strap A, substantially in the manner set forth and for the uses and purposes herein described.

**70,325.**—EDWARD DITHRIDGE, Pittsburg, Pa.—*Process of Manufacturing Silver Glassware.*—Octo-

ber 29, 1867.—A hollow stud projecting from the globe is the means of introducing the silver, and this is then placed in the cap of the stand and the intervening space filled in with cement.

*Claim.*—Providing a recess for the reception of tenons so as to form any article of silvered glassware, composed of any number of pieces, without bringing the cement used in contact with the silver on the glass, substantially as set forth and described.

**70,326.**—JUSTIN EBEE, Hummelstown, Pa.—*Car Coupling.*—October 29, 1867.—At the end of each car is a hinged coupling link and a coupling hook, so that the means of attachment is duplicated. As the cars come in contact the bunters are forced back against the springs, causing the shafts to turn and the arms to swing forward, throwing the links into engagement with the coupling hooks.

*Claim.*—The combination and arrangement of the bunter G, shaft E, arm  $a$ , cage D, coupling link B, and hook C, substantially as and for the purpose herein specified.

Also, the lever L, arranged in combination with the coupling link B and hook C, substantially as and for the purpose herein set forth.

**70,327.**—SAMUEL EBERLY and SAMUEL HANCK, Mechanicsburg, Pa.—*Horse Rake.*—October 29, 1867.—On the shaft is a slotted plate adjustable by set screws, up or down; the nearer to the sweep of the rake head this plate is moved the less height the rake will rise, and conversely.

*Claim.*—In combination with the sliding rod that takes against the projections on the carrying wheel to lift up the rake, the trigger pivoted and connected thereto, and the adjustable tripper or "let-off," so that the height to which the rake may rise may be regulated to the height of the windrows of hay, grass, or other material desired to be gathered, substantially as described.

**70,328.**—C. A. EWICK, Rushville, Ind.—*Cultivator.*—October 29, 1867.—The shovel standards are pivoted to the cranks, which are adjustable vertically by the levers. Chains are attached to the standards and springs tend to preserve their working position.

*Claim.*—First, the arrangement of the frames A A', connected together as specified and provided with the cranks  $e e g g$ , in the manner and for the purposes set forth.

Second, the shovel beams D D' D D' connected to the cranks  $e$  and  $g$  and secured in position by the springs G G' and chains  $r r$  to the frame A, as specified.

**70,329.**—HENRY FAYETTE, Port Chester, N. Y.—*Cupola Blast and Smelting Furnace.*—October 29, 1867.—The blast enters at the induction pipe in the crown and divides, a part passing down the center and a part around the outside pipes to the air chamber. The currents enter the cupola from within and without with a whirling motion.

*Claim.*—First, a downward central blast through a pipe so located in the furnace that the air will become heated by the fire of the furnace before being discharged into the same, substantially as shown and described.

Second, a divided downward blast, one portion passing down a flue or pipe through the center of the furnace and the residue down side flues so located that the air in all said flues will become heated in passing down the same, substantially as described.

Third, an upward central blast from below the furnace, substantially as shown and described.

Fourth, the combination of an upward and downward central blast, substantially as shown and described.

Fifth, in combination with the air chamber B, the curved wings  $s$ , to conduct the blast into the furnace with a whirling centripetal motion, substantially as described.

Sixth, in combination with a central blast, whether from above or below, or both, the flanges or disks  $e$  and  $f$ , with the intervening curved wings  $t$ , to give the blast from the center a whirling centrifugal motion, as described.

Seventh, in combination with the air chamber B and curved wings  $s$ , a central blast from above or below, or both, with the curved wings  $t$ , all constructed



and arranged substantially as and for the purposes described.

Eighth, in combination with an annular air chamber, as described, passage ways for a portion of the air to be forced therefrom into the circumference of the furnace, and a curved or bent pipe or flue for conducting another portion of the air from said chamber down below and thence up through the bottom of the furnace, centrally, as described.

**70,330.**—J. P. FLANDERS and S. K. WELLS, Burlington, Vt.—*Bed Bottom*.—October 29, 1867.—The bottom coil of each spring is secured to the slat by side strips, and the helical coils support upper slats which are tied together by belts and support the mattress.

*Claim.*—The slat A, with grooves formed upon its upper side, substantially as herein represented, for the purpose of securing the bottoms of the springs, as is herein fully set forth.

**70,331.**—FRANKLIN D. FORD, New Bedford, Mass.—*Neck-tie*.—October 29, 1867.—By pressing together the lower ends the jaws are sufficiently opened to pass the button and close upon the latter as soon as the said pressure is withdrawn.

*Claim.*—The metallic spring fastening, provided with fingers or end  $e^2$  and clamping parts  $c^2$ , as herein set forth and for the purposes specified.

**70,332.**—GEORGE W. FOSDICK, Dowagiac, Mich.—*Rein Holder*.—October 29, 1867.—The box is riveted to the dashboard and has a stationary and a movable upright between which the reins are held by the power of a spring.

*Claim.*—The plate A, spring D, and uprights B B and C, constructed, connected, and operating as and for the purpose set forth.

**70,333.**—JOHN HALE, Scranton, Pa.—*Door Holder*.—October 29, 1867.—The recess in the block fits below the door to which it is pressed by the springs.

*Claim.*—The block A, as constructed and provided with the spring C, and used for the purpose specified.

**70,334.**—WILLIAM P. HASKINS, Mendota, Ill.—*Ball-and-Socket Joint*.—October 29, 1867.—The ball is secured in the socket by a pin passing through both ball and socket, making a pivoted connection; the pin is secured by a transverse leather key.

*Claim.*—First, the mode of securing the parts of a ball-and-socket joint by means of a pin passing through the socket and ball and a thong passing through the ball and socket, and also through the pin, substantially in the manner set forth.

Second, the sockets A A, constructed with rounded cavities, perforated by four holes, substantially as set forth.

Third, in combination with sockets constructed as described, the double-headed link, substantially as set forth.

**70,335.**—WILLIAM HILL and JAMES A. HARP-HAM, Havana, Ill.—*Corn Harvester*.—October 29, 1867.—The frame is driven ahead of the horses and gathers the rows of corn, bending them down and stripping the ears therefrom by means of the right and left-handed spiral-flanged cylinders and knockers, which are actuated by gearing. The stalks are grasped by worm rollers to prevent their being pulled from the ground. The conveyor between the cylinders carries the ears to an elevator, which discharges them into a wagon.

*Claim.*—First, the cylinders D, constructed and operating substantially as described, with flanges E and knockers F.

Second, the elevator H, in combination with the cylinders D, substantially as described.

Third, the elevator H, in combination with the discharge elevator I, substantially as described.

Fourth, the reversible elevator I, constructed and operating, substantially as described, so as to discharge the corn on either side.

Fifth, the "triple tree" S S<sup>1</sup> S<sup>2</sup> S<sup>3</sup>, in combination with double pulley U and cords  $i$  and  $u$ , substantially as described.

**70,336.**—SETH HOKE, Union City, Ind., assignor to himself and VAL. THOMPSON, same place.—*Animal*

*Trap*.—October 29, 1867.—The animal trips the bait trigger, and his weight on the pivoted platform closes the doors before and behind him and opens the entrance into a second chamber. As he advances into the latter the trap is reset automatically. The second chamber has a sliding door and is detachable.

*Claim.*—First, in combination with the box A and doors C and D, the lever B, hinged floor F, and connecting rods F<sup>2</sup> and D<sup>2</sup>, substantially as set forth.

Second, the arrangement of the box A, bait box E, oscillating frame G and trigger G', doors C and D, lever B, and connecting rods D<sup>2</sup> and F<sup>2</sup>, substantially as described.

Third, the combination of the hinged floor F, door H, and the angular rod H' attached to the latter, with the doors C and D and weighted lever B for setting the trap automatically, substantially as set forth.

Fourth, the arrangement of the cage I having a sliding door K in connection with the box A, having the parts for setting the trap automatically upon the passage of the animal from the box, substantially as set forth.

**70,337.**—ALONZO W. IRISH, Rochester, Minn.—*Process of Tanning*.—October 29, 1867.—The hide is unhaired in a solution of lime and ashes, then rinsed and placed in a solution of hen manure to take the lime out of the hides, when they are again rinsed and ready for the tanning liquid, which is composed as follows: to  $\frac{1}{4}$  barrel of water add 10 pounds boiled tag alder; dissolved japonica, 1 pound; oil of vitriol, 2 pounds; creosote,  $1\frac{1}{2}$  ounce; spirits of salt, 2 ounces; salt, 6 pounds. Mix well by stirring and let it stand over night.

*Claim.*—The within described process of tanning, when composed of the ingredients as set forth and for the purposes specified.

**70,338.**—ROBERT JONES, Cedarville, Ill.—*Bee-hive*.—October 29, 1867.—The hive is formed in two sections, in the lower one of which the honey box is pivoted so as to remove it from the effects of changes of weather, that it may be easily removed when the upper section of the hive is displaced. The flues ventilate the interior of the hive.

*Claim.*—A beehive with two horizontal sections A A', having rubber or cloth  $x$  between them, and with the interior and exterior covered with the plastering specified, box D, honey board F, ventilating hole  $y$ , and pipe B, all constructed, arranged, and used for the purposes set forth.

**70,339.**—THEODORE W. KREITZ, Quincy, Ill.—*Folding Desk*.—October 29, 1867; antedated October 13, 1867.—The hinged, elevating and supporting frame is upheld by drop braces that dog into recesses in the frame beneath.

*Claim.*—A portable folding desk, consisting of a frame A, panels  $b$   $c$ , and top  $d$ , jointed or hinged to each other, which when elevated for use are supported at the desired elevation by the props or pawls  $e$  and the notches  $f$ , constructed substantially as and for the purposes described.

**70,340.**—CHARLES E. LATTIN, Birmingham, Conn., assignor to himself and JOHN R. LATTIN.—*Flush Bolt*.—October 29, 1867.—The bolt has pins on its edges and is operated by a pivoted plate which is actuated in either direction to move the bolt correspondingly, and at other times lies flush with the easing.

*Claim.*—The combination of the plate D in the plate A, and the bolt B, constructed and arranged so as to operate substantially as herein set forth.

**70,341.**—JOHN L. LAY, Buffalo, N. Y.—*Locomotive*.—October 29, 1867.—Explained by the claim and illustration.

*Claim.*—A locomotive engine, constructed with high and low pressure cylinders, the pistons of the high-pressure cylinders being upon the same rod with those of the low-pressure, and the axis of each in line with the other, substantially as and for the purposes set forth.

**70,342.**—H. LEFEVRE and J. MCGUIRE, Lancaster, Pa.—*Compound for Stopping Leaks in Steam Boilers*.—October 29, 1867.—Composed of sulphate of lime 1 quart; wheat bran, 2 quarts; mixed and thrown



into the boiler, where it finds its way to the leak and becomes indurated therein.

*Claim.*—The composition set forth, combined substantially in manner and for the purpose specified.

**70,343.**—EBENEZER W. LOWE, Almond, N. Y.—*Washing Machine.*—October 29, 1867.—The corrugated roller rotates above the concave bed of rollers, being depressed thereupon by springs which connect by draw rods with the roller bearings.

*Claim.*—The combination of the spring I, stirrup rods H H, lever nuts h h, as described, with the washing cylinder, as constructed, and the frame C C, as suspended on the springs D D, so as to operate substantially in the manner herein described for the purposes specified.

**70,344.**—GEORGE MALLORY, Bridgeport, Conn.—*Fan and Parasol Combined.*—October 29, 1867.—The sunshade is raised at an inclination to make a convenient shade, and turns down on its pivot till it engages in the hook on the handle to form a fan.

*Claim.*—The combination of the curved or drooping hoop frame, handle, and joints, substantially as hereinbefore set forth.

Also, the combination of the hoop frame, handle, joint, and locking mechanism, substantially as hereinbefore set forth.

Also, the combination of the hoop frame, handle, joint, locking mechanism, and slide, substantially as hereinbefore set forth.

**70,345.**—A. S. MARKHAM, Bushnell, Ill.—*Compound Cultivator and Seeder.*—October 29, 1867.—The double shovel plows are attached in front to pendants from a wheeled frame, and are vertically adjusted in the rear by levers and chains.

*Claim.*—In connection with the frame of a wheeled cultivator the pendants E E, beams I, with the plow shanks J J, chains or cords L, and levers P, with the bar S, rods a a, and whiffletrees 6 6, arranged and used as and for the purpose specified.

**70,346.**—GEORGE MCLEAN, Brooklyn, N. Y., assignor to himself, JOEL P. STILLWELL, and GEORGE DELAND, New York, N. Y.—*Burning Fluid.*—October 29, 1867.—To 40 gallons of gasoline add whiting, 1½ pound; gum benzoin, 5 ounces; sweet spirits of nitre, 5 ounces; spirits of ammonia arometica, 3 ounces; salt, ¾ of a pound; oil of sassafras, 1 ounce; almond oil, 1 ounce.

*Claim.*—The illuminating compound composed of the ingredients substantially as herein described and for the purposes set forth.

**70,347.**—MATTHIAS MEAD, Lowell Mass.—*Portable Radiating Furnace.*—October 29, 1867.—Part of the air enters beneath the grate, supports combustion and passes off by the exit flue; another portion is deviated to the flue around the chamber, then dives down an outer concentric flue, becomes heated, and so passes to the room.

*Claim.*—The arrangement of the continuous vacuum or flues e and f, for the purpose of heating foreign air and distributing it into any room or rooms, substantially as described and herein specified.

**70,348.**—JOHN W. MELCHER, Oshkosh, Wis., assignor to himself and JOHN J. SPRAGUE, same place.—*Detachable Whiffletree.*—October 29, 1867.—By withdrawing the bolt the loop of the whiffletree is freed and may be removed from its connection to the cross-bar of the thills.

*Claim.*—The intermediate connection b, the spring bolt c, detachable hook d, hinged attachment i i, and swivel bolt k, when arranged relatively to each other and to the whiffletree a and cross-bar c, substantially as described for the purposes set forth.

**70,349.**—DANIEL MENDENHALL, Fairfield, Iowa.—*Tree Protector.*—October 29, 1867.—Improvement on his patent October 16, 1866. The trough contains water and is attached by a flexible band to the trunk of the tree. The trough is in two semi-annular sections united by clasps.

*Claim.*—First, the flexible collar or band B, applied to a trough C, and adapted to serve the purposes described.

Second, the use of a clasp a for uniting the extrem-

ities of the trough C about a tree, substantially as described.

Third, the combination of the interposed protecting strip e and clasp a with a trough C, substantially as described.

**70,350.**—JOSEPH NATHAN, Washington, D. C.—*Egg Holder.*—October 29, 1867.—The cup-shaped open dipper lifts the egg and allows the water to drain therefrom.

*Claim.*—The egg-holding device, consisting of the handle A, with flat portions e, expanding strips a a', ring b, cross pieces c, and foot piece d, substantially as described.

**70,351.**—JACOB NEWHART, Terre Haute, Ind.—*Plow Clevis.*—October 29, 1867.—The long oscillating clevis with its attaching bolts regulates the inclination of the draft.

*Claim.*—First, the oscillating plow clevis, Figs. 1 and 2, in the manner set forth.

Second, the regulating bolt C, in connection with the looped T segment, Figs. 1 2 3 and 4, substantially as set forth and herein explained.

**70,352.**—JOSIAH H. NICHOLS, New Britain, Conn., assignor to A. H. North and G. W. LUNT.—*Manufacturing Knives and Forks.*—October 29, 1867.—The blade and half the handle are formed out of one piece of metal, and the remaining section of the handle is brazed thereon.

*Claim.*—The blade a and one part of a handle c when formed of one piece of metal, substantially as described.

Also, uniting one part of a handle c', formed in the common way, to said blade and handle a c, substantially as described.

**70,353.**—H. D. PECK, Newton, Mass., assignor to WILLIAM N. ELY, Stratford, Conn.—*Thimble.*—October 29, 1867.—The sliding blade is projected from its sheath when required to cut the thread.

*Claim.*—A sliding knife blade or cutter, attached to and combined with a thimble or finger clasp, when constructed and arranged substantially as described.

**70,354.**—CHARLES PETERSON and CHARLES GUNNER, San Francisco, Cal.—*Boat Detaching Tackle.*—October 29, 1867.—The lever draws the sleeves off the rods that secure the hooks of the tackle, letting both ends free simultaneously.

*Claim.*—First, the rods C, attached to the bottom of a boat, their upper ends being free and provided with loops c, substantially as and for the purposes described.

Second, the sleeves D D' on the rods C, substantially as and for the purposes described.

Third, the rods B B', pivoted as described in combination with the rods C and sleeves D D', and ropes b and d.

Fourth, the roller or drum e, pivoted in a slot in a thwart or cross-board and provided with a lever f, substantially as and for the purposes described.

Fifth, the detaching device, consisting of the rods B B' and C, sleeves D D', ropes b and d, and roller or drum e provided with a lever f, and pivoted in a slotted thwart or board, substantially as described.

**70,355.**—MARVIN PIERCE, Winona, Minn.—*Spring Bed Bottom.*—October 29, 1867.—The slats are secured on angle springs that have a double bearing in the transverse bars and are halved into each other.

*Claim.*—The slats C C, running lengthwise of the bed and resting upon the extremities of two springs B B, formed as here described, and connected through angular openings e e, in two bars A A, which extend crosswise of the bed when constructed, arranged, and used in the manner and for the purpose set forth.

**70,356.**—C. PINDER and D. C. ROBINSON, Lowell, Mass.—*Car-axle Box.*—October 29, 1867.—The ear box has four bearings to facilitate the work of repairing when a bearing is worn out.

*Claim.*—First, a car-axle box a having bearing surfaces d d d d, each being ready provided with Babbitt or equivalent soft metal c, and arranged to be in turn placed in position for use substantially as described, and for the purpose set forth.



Second, the cooling chamber *b*, in combination with the box *a*, for the purposes substantially as herein described.

**70,357.**—THOMAS D. POWERS, Rochester, Wis.—*Wagon Shackle*.—October 29, 1867.—The slot in the sides of the thill iron passes over the studs projecting from the inner faces of the shackle while the thill is held vertically; when the latter is oscillated into working position the parts are securely engaged.

*Claim.*—A draw iron with a slot *E*, a cylinder with a slot *F*, notch *L*, rubber spring *G*, metallic spring *H*, a shaft iron with *T*, head shoulders *K K*, when arranged to operate as shown and described and for the purpose set forth.

**70,358.**—J. E. PRUDDEN, Birmingham, Conn.—*Carriage Shackle*.—October 29, 1867.—The coupling is attached by a conical threaded bolt that has a nut on each end so as to readjust it to compensate for wear.

*Claim.*—The herein-described shackle, as an improved article of manufacture, consisting of the shackle *B* and coupling *C*, constructed and arranged with the conical bolt *D*, made square at its larger end, and provided with nuts *G* and *H* so as to be adjustable, substantially in the manner herein described.

**70,359.**—ALBERT T. RAND, New York, N. Y.—*Compound for Blasting Powder*.—October 29, 1867.—Composed of charcoal, 40 parts; nitrate of soda, 60; prepared, mixed, granulated and dried.

*Claim.*—A compound or powder made substantially as above described, for the uses and purposes above set forth.

**70,360.**—J. C. REYNOLDS, Taunton, Mass.—*Knife Sharpener*.—October 29, 1867.—The transverse steels are attached in a clamp frame that is adjusted to the shelf by a set-screw.

*Claim.*—A knife sharpener with two steels arranged to turn in a stand and present new sharpening surfaces when required, in combination with said stand, and a foot and clamping screw to fasten it to a shelf or table, substantially as described.

**70,361.**—ISAIAH C. RICHARDS, Columbia, Pa.—*Composition to be used in Puddling Iron*.—October 29, 1867.—To a charge of 500 lbs. in the puddling furnace add a powder composed of  $1\frac{1}{2}$  lbs. black oxide of manganese; litharge,  $2\frac{1}{2}$  lbs.; or for some qualities of iron substitute for the litharge  $\frac{1}{4}$  lb. nitrate of potash. The result is to eliminate the sulphur and phosphorus.

*Claim.*—The combination of the black oxide of manganese with litharge, and also with nitrate of potassa, when combined in the manner and for the purpose substantially as herein specified.

**70,362.**—ADOLPH ROESLER, Warsaw, Ill.—*Match Safe*.—October 29, 1867.—The double-bodied match-safe has a passage at bottom for a single match, which the sliding tube forces through the serrated plate; the match is ignited as it is projected.

*Claim.*—Rod *c* and sliding tube *F*, in combination with the double safe *A*, provided with springs *G G*, or their equivalents, the whole arranged and operating substantially as described.

**70,363.**—JOHN ROOT, New Haven, Conn., assignor to himself and MCLAZAN and STEVENS, same place.—*Machine for Heading Bolts*.—October 29, 1867.—The bolt is grasped in the die holder, its lower end resting on the spring. The shaft performs one rotation, in which the die first strikes upon and upsets the metal. Two of the dies compress the head into form. The upsetting die is brought down a second time on the head. The holding die is then opened and the spring forces the bolt up, in which position the dies are again forced against the head, and then another die comes down on the head, driving it hard home upon the holding die.

*Claim.*—The arrangement of the forging dies *e e* and *f f*, the upsetting die *m*, and the holding die *J*, in combination with the mechanism for operating the same, and the spring *S*, all constructed so as to operate substantially in the manner herein set forth.

**70,364.**—HAMILTON RUDDICK, Boston, Mass.—*Steam Generator*.—October 29, 1867.—The boiler is hung on trunnions so as to maintain its equilibrium while the car is on an incline.

*Claim.*—In traction and climbing engines, when the engine is rigidly connected with the carriage, a boiler hung on trunnions, and delivering steam through said trunnions to pipe *D*, connecting the same with the engine, substantially as and for the purpose described.

**70,365.**—JAMES F. RUSSELL, Washington, D. C.—*Facilitating the flow of Illuminating Gas through Pipes*.—October 29, 1867.—The flow of gasoline is facilitated by forming an annular passage around the pipe, which is heated by steam.

*Claim.*—The method herein described of heating and keeping at an even temperature gas, water, or other pipes, by allowing steam, hot air, &c., to pass in at one end of a case pipe, surround the inner pipe, and follow along its whole or partial extent, pass off in the manner substantially as described for the purpose set forth.

**70,366.**—JOHN J. SANDGREN, Lyons City, Iowa.—*Compound Tool for Shearing, Punching, and Upsetting*.—October 29, 1867.—The tire, by being heated and placed within the clamps, is shrunk without cutting and welding.

*Claim.*—The combination and arrangement of the levers *G* and *E* with the toggles *W W J* and *U*, when constructed, arranged, and operating substantially as and for the purposes as above set forth.

**70,367.**—DANIEL SCANLIN, Rochester, N. Y.—*Sirup Pitcher*.—October 29, 1867.—The sirup runs out at the main spout, and the smaller one returns the drip to the pitcher.

*Claim.*—The spouts *a* and *b*, when constructed so that their outer edges form a curvilinear line, and cover *c*, when constructed so that it will open and close both spouts at one operation, in combination with tube *d*, constructed substantially as described and for the purposes set forth.

**70,368.**—CHARLES H. S. SCHULTZ, Cincinnati, Ohio.—*Corn Popper*.—October 29, 1867.—The wire basket is fastened in front with a hook and to the handle by a ring.

*Claim.*—The encircling frame *F*, whose hooked shanks *f f'* are secured to a perforated and grooved handle *G g g' g''* by means of the ring or ferrule *H*, in the manner and for the purpose set forth.

**70,369.**—WILLIAM and COLEMAN SELLERS, Philadelphia, Pa., assignors to WILLIAM SELLERS & CO.—*Valve Gear of Steam Hammers*.—October 29, 1867.

—The valve is operated through any reciprocating part of the hammer by means of a lever, to which at one point the valve is attached; to another the reciprocating power is conveyed; while a third point serves as the attachment to the hand lever. Each point is a fulcrum in turn, in accordance to the work required of the hammer. When working automatically, the fulcrum is the hand lever attachment. When worked by hand, the fulcrum is changed to the point of attachment of the reciprocating power. When the hammer is elevated, one motion of the hand lever opens the valve, and as the hammer rises the hand lever and reciprocating attachments both move. The fulcrum being the valve attachment, the valve remaining stationary.

*Claim.*—First, the lever *L*, or its equivalent, when all its points of attachment may be fulera in turn, according to the work required of the hammer, substantially as described and for the purpose specified.

Second, the lever *L*, or its equivalent, when arranged in combination with the piston and slide valve, so that the relative position of the piston and valve may be changed for the purpose specified.

Third, the diagonal slot, or its equivalent, in the hammer bar within the steam space of the cylinder, or its connection, for the purpose specified.

**70,370.**—ROBERT SIMPSON, Port Jefferson, Ohio, assignor to himself and DAVID WILKINSON, same place.—*Animal Trap*.—October 29, 1867.—A series of wings are attached to a rotary shaft that is actuated by a weighted cord, so that they consecutively assume



a horizontal position, forming a platform upon which the rat stands while nibbling at the bait, and from which he is thrown down into the trap.

*Claim.*—The combination of the notched bar F with the spring triggers E, wings C, shaft B, and spring or weight D, all arranged and operating in the manner and for the purpose set forth.

**70,371.**—W. W. SMITH, Strongsville, Ohio.—*Ratchet for Driving Wheels.*—October 29, 1867.—The hub is allowed either to revolve on the shaft or is secured fast to it by a key. The blocks have a series of teeth that press into corresponding ones on the rim of the hub, and pressing all around at the same time give an even adjustment to the attachment.

*Claim.*—The blocks E E, shaft C, cross-piece D, springs F F, and hub A, constructed, combined, and used as and for the purpose set forth.

**70,372.**—HENRY D. SNYDER, Carbondale, Pa., assignor to himself, O. REYNOLDS, and A. L. HUNT.—*Safety Pocket.*—October 29, 1867.—The pocket is expanded by the springs, which oppose the ripping of the pocket by a depredator.

*Claim.*—A safety pocket, constructed with a series of springs between the pocket and its lining, substantially as described.

**70,373.**—WILLIAM P. STALCUP, Brookville, Ind., assignor to himself and JOHN P. LANCASTER, same place.—*Mill Burr Dresser.*—October 29, 1867.—The frame travels back and forth between the upright plates, carrying the machinery, the object being to groove, channel, face, or cut the dress in the stones.

*Claim.*—First, the slot s in the frame A, substantially as and for the purpose specified.

Second, the instrument above described for adjusting the loop O accurately to the center of the runner, when constructed and operating substantially in the manner and for the purpose required.

Third, the loop O, when provided with a set screw and used in connection with the frame A to regulate the draft of the dress, substantially as described.

Fourth, the tempering arrangement, consisting of the screw rod F''' and screw F'', when used in connection with the frame F to regulate the force of the cutting tool K, substantially as described.

Fifth, the sleeve o, bearing the two cams e e, when used upon the working shaft of a stone dressing machine, to enable it to dress in both directions, substantially as set forth.

Sixth, the stone dressing machine above described, consisting of the frame A, horizontal sliding frame D, vertical sliding frame F', bearing the tool K, shaft E, bearing the sleeve o, two cams e e, rack b, and gear wheels u w m, adjusted by means of lever L, all the said parts being constructed, arranged, and combined substantially in the manner and for the purposes specified.

**70,374.**—ANTHONY ST. LOUIS, Keesville, N. Y., assignor to himself and P. S. WHITCOMB, same place.—*Horseshoe Nail Machine.*—October 29, 1867.—The bar is held in the guide box, which is secured to a metallic spring. When the shaft oscillates, its connecting rods communicate motion to the hammers, the face ends of which are beveled to suit the shape of the rail. The vertical hammers strike the rail simultaneously above and below, and its lateral hammers strike it simultaneously on its sides.

*Claim.*—First, constructing, arranging, and operating the hammers E F and H H in the manner and by the means herein described, whereby said hammers are given a precise stroke, and one which draws the nail, substantially as represented.

Second, the combination of the cross piece N, the pivoted arm z, box e, knife s, bar Q, and wheel R, with its projection, used substantially as and for the purpose set forth.

**70,375.**—LEWIS STRAUS, Louisville, Ky.—*Car Replacer.*—October 29, 1867.—The segment-shaped tool, in combination with a laterally movable rack, is applied to one end of the car, and so constructed by a system of pulleys and gearing that the car can be elevated and placed on its track.

*Claim.*—First, the combination of a lifting device with a stool support attached, so applied to the end of the car or locomotive as to admit of the replace-

ment of the same upon the track, substantially as described.

Second, the slotted stool bar C and traveling rack D, in combination with a pinion spur wheel c and hand wheel F, substantially in the manner and for the purposes described.

Third, the manner described and shown of attaching the rack D to the stool bar C, for the purpose specified.

Fourth, in combination with a device for lifting one end of a car, a device by which such end, while elevated, can be moved laterally, substantially as described.

**70,376.**—WILLIAM A. TERRY, Bristol, Conn.—*Alarm Clock.*—October 29, 1867.—The dial should be turned till the numbers representing the hour at which it is desired that the alarm shall go off shall be under the short hand of the clock. If it is to go off within the first twelve hours the index is set at 1, and if in the second twelve at 2. To stop the alarm from going off the index is turned to 0.

*Claim.*—First, the spring catch D, Fig. 2, made as in the drawings, or swinging on a pin or center, with separate springs, or any other manner, to operate substantially as described.

Second, the alarm index A, Fig. 2, by means of which the alarm can be set to go off at any hour of either 12 or 24, or be prevented from going at all when desired, or any substitute operating in a similar manner.

Third, the pins E and F, Fig. 1, in the alarm dial.

Fourth, I do not claim the use of slot K, Fig. 1, the pins in the wheel J, Fig. 1, or the lock work I and H, Fig. 4, taken separately, or for other purposes, as I am aware they have been previously used; but I claim the arrangement and combination of them, substantially in the manner and for the purpose described.

**70,377.**—JOHN TOBIN, Newark, N. J.—*Flour Sifter.*—October 29, 1867; antedated October 9, 1867.—The rollers and beaters are attached to the transverse arm that is adjustably secured in the elongated slot of the vertical shaft that is rotated by the hand crank above its wire-screen bottom.

*Claim.*—The reversible arm t, with the rollers r r and the flexible beaters or rubbers q q, constructed and arranged substantially as shown.

**70,378.**—WILLIAM F. TURNER, Philadelphia, Pa.—*Umbrella.*—October 29, 1867.—The ribs and covering of the umbrella are detachable and are stowed within the hollow handle when it is used as a cane.

*Claim.*—An umbrella having a hollow cane or handle, the rib stretchers, cap, runner, and cover all being detachable, as and for the purpose herein shown and described.

**70,379.**—HIRAM TYLER, Gaines, N. Y., assignor to himself and CHARLES T. RICHARDS, Albion, N. Y., and JOHN MARSH, East Carrolton, N. Y.—*Pumps.*—October 29, 1867.—The piston is double-acting, and the cylinder has two valves at each end; the valves at a given end open into induction and eduction chambers respectively.

*Claim.*—The boxes D and E, pipes B C, valve plates L, and piston head as constructed with its piston rod F, the several parts being used with the cylinder A, when combined, arranged, and operating in the manner substantially as and for the purposes herein specified.

**70,380.**—SAMUEL VANSTONE, Providence, R. I., assignor to himself and JOHN STEWART, same place.—*Connecting Link for Chains.*—October 29, 1867.—The overlapping, ratcheted sections of the link are secured by a central pin through the connecting strap.

*Claim.*—The improvement in connecting links described, which consists in making each division of the link with a central tongue a, which tongues, when overlapped by placing the two parts of the links together and uniting the same by a rivet, will form a cross-bar b, substantially as described for the purposes specified.

**70,381.**—ELISHA WALKER and A. M. WEED, La Porte, Ind.—*Cultivator.*—October 29, 1867.—The



draft hooks are attached to the pendent bars to which the plow beams are pivoted. The plows are elevated by chains from the beams that connect to the axles. The extension seat in the rear balances the tongue.

*Claim.*—First, the mode of counterbalancing the weight of the tongue by that of the driver by means of the seat K, resting upon the bars K', adjustably secured to the tongue and supported upon the axle, substantially as set forth.

Second, the combination of the tongue D, double-tree F, with sockets F' and beams G, respectively constructed and arranged substantially as set forth.

**70,382.**—FRANCIS W. WHITE, Norwich, Conn.—*Machine for Making Blind Slats.*—October 29, 1867.—The plank is placed within the ways and fed along till it touches a stop, when a transverse cut severs a section, which is removed by a feed roller to the place where it is sawed into strips. The action of the roller is intermittent, and during its intervals of rest the rotary tubular cutters are successively forced into the opposite sides of the block and form openings. The surfaces are planed and gudgeons made on their extremities by automatic operations.

*Claim.*—First, cutting blind slats from a plank and finishing the same automatically at one operation, by the mechanism substantially as herein set forth.

Second, the railway saw D in combination with the connecting rod *f*, to throw it into operation by the contact of the plank while passing through the parallel ways, as shown and described.

Third, cutting the tenons of the slat in the block by mechanism, substantially as described.

Fourth, cutting the shoulders of the slats in the block by mechanism, substantially as described.

Fifth, the cutters *k* and *k'*, formed to fit the space between two slats and employed to finish their sides and edges, substantially as shown and described.

Sixth, the rests or followers *v*, for holding the slats while being cut from the block, as described.

**70,383.**—S. R. WILMOT, Bridgeport, Conn.—*Uniting Sheet Metal.*—October 29, 1867.—The corrugated edges are clasped together and the united plate fed through rollers.

*Claim.*—The uniting of the two edges of metal by the formation of the corresponding edges and uniting the same in the manner herein set forth.

**70,384.**—J. H. ALDRICH, Nashua, N. H.—*Railroad Freight Car.*—November 5, 1867.—The car has oblong apartments extending across the car, with doors at each side of the car for loading and unloading cattle, &c. A chamber above carries subsistence.

*Claim.*—The cattle car, when substantially arranged as and for the purpose described.

**70,385.**—J. M. ALEXANDER, Delhi, Ohio.—*Tobacco Smoking Tube.*—November 5, 1867.—The tobacco is contained in a fine gauze cylinder enclosed within a cigar-shaped case, leaving an annular space between, communicating with the mouthpiece. As a modification a small gauze tube may traverse the case axially and the tobacco be placed around it.

*Claim.*—A tobacco smoking tube, formed by combining an outer tube with an inner wire gauze, perforated or porous cylinder, in either of the forms above described, so that the smoke will be drawn to the mouth without passing through the tobacco, substantially as set forth.

**70,386.**—GUSTAVUS ARND, New York, N. Y.—*Treating Tobacco.*—November 5, 1867.—The ammonia generated in the tobacco by fermentation is neutralized by free acids or by acetic acid produced by the fermentation of saccharine matters added to the tobacco.

*Claim.*—First, treating tobacco with acids, such as acetic acid, formic acid, malic acid, lactic acid, or any other acid of a similar nature, substantially as and for the purpose described.

Second, treating tobacco with vegetable substances, such as saccharine or other juices, and then subjecting the same to fermentation, substantially as and for the purposes set forth.

**70,387.**—E. H. ASHCROFT, Lynn, Mass.—*Elevator.*—November 5, 1867.—The platform is supported by a metallic, braced frame, which has a socket traversed by the lifting screw. Anti-friction rollers bear against the framing, inside and outside.

*Claim.*—The combination of the frame H with its friction rollers *h* and *g*, and the screw E, constructed and operating in the manner substantially as shown and described and for the purpose set forth.

**70,388.**—E. H. ASHCROFT, Lynn, Mass.—*Covering Steam Generators.*—November 5, 1867.—The boiler is covered with alternate layers of felt and cement, which are held in place by hooks projecting from bands fastened to the boiler. A metallic cylinder encloses the outer layer.

*Claim.*—First, the combination and arrangement of bands A, hooks or points *a*, and cement layer B, substantially as shown and described and for the purpose set forth.

Second, the combination and arrangement of covering F, alternate layers E D C B, and bands A, constructed and operating in the manner substantially as shown and described and for the purpose set forth.

**70,389.**—E. H. ASHCROFT, Lynn, Mass.—*Condenser.*—November 5, 1867.—The water pipe discharges into the three chambers of the reservoir. From each of these depends a pipe with a rose sprinkler at its lower end. The three sprinklers are at different elevations in the waste pipe.

*Claim.*—The combination and arrangement of the waste pipe A, showering pans B, reservoir E, and supply pipe C, operating in the manner substantially as shown and described and for the purpose set forth.

**70,390.**—E. H. ASHCROFT, Lynn, Mass.—*Fire-proof Safes.*—November 5, 1867.—The spaces between the inner and outer casings are filled with nests of pipes which are charged with water and sealed up. Fusible plugs give way when a certain degree of heat is reached, and provision is made for some of it to pass inside to keep the contents from charring.

*Claim.*—First, in a fire-proof safe a series of perforated water pipes E, or their equivalents, arranged substantially as described and for the purpose set forth.

Second, in combination with said pipes, the inner perforated lining B, and chamber D, arranged and operating in the manner substantially as shown and described and for the purpose set forth.

Third, in combination of the chamber D and water pipes F, constructed and operating in the manner substantially as shown and described and for the purpose set forth.

**70,391.**—GEORGE BEIGEL, New York, N. Y.—*Stereoscopic Apparatus.*—November 5, 1867.—A pack of pictures are introduced above, and are fed singly before an opening opposite the eyeglasses, and are discharged from the point of view previous to another one slipping into place. The pictures arrange themselves in a pack in the lower chamber.

*Claim.*—First, introducing the pictures into the stereoscopic apparatus in packs or quantities, instead of singly or in pairs, as heretofore, substantially as and for the purposes described.

Second, the feed screw D and slide C, for propelling the pack of pictures, substantially as set forth.

Third, the separating screw F, provided with spiral steps, substantially as and for the purpose described.

Fourth, the tappet rod *e*, bolt *d*, and tooth *a*, in combination with the projections *e'*, slide C, and feed screw D, substantially as and for the purpose set forth.

Fifth, the stop *f*, in combination with the tooth *a*, slide C, feed screw D, and case A, constructed and operating substantially as and for the purpose described.

Sixth, the trap H, in combination with the feeding and separating mechanism, constructed and operating substantially as and for the purpose set forth.

Seventh, the folding flap K, hinged T-shaped brace M, and hinged head L, in combination with the eyeglasses J, and case A, constructed and operating substantially as and for the purpose described.

Eighth, the oscillating finger N, in combination



with the trap H, and with the feeding and separating mechanism, constructed and operating substantially as and for the purpose set forth.

Ninth, the lower side O, in combination with the folding and separating mechanism, constructed and operating substantially as and for the purpose described.

Tenth, the method, herein described, of collecting the pictures in the lower part of the case after they have been viewed, so that they can be removed in quantities or packs, as set forth.

Eleventh, giving to the lower slide O a faster motion than to the feed slide C, substantially as and for the purpose described.

Twelfth, the winding mechanism Q, in combination with the slides O C and cords *s' t*, constructed and operating substantially as and for the purpose set forth.

**70,392.**—W. P. BENNETT, East Pepperell, Mass., assignor to himself and HENRY BLAKE, same place.—*Lamp Extinguisher*.—November 5, 1867.—The upward pressure of the wick separates the rollers, which close again above the wick. The bearers of the rollers are attached to a collar on the wick tube, and a sleeve slips upon the latter to close the opening between it and the rollers.

*Claim.*—The application of the two rollers *a a* to the wick tube of the burner, so that the said rollers may operate with and be operated by the wick, substantially in manner and for the purpose set forth.

Also, the combination and arrangement of the slotted arms *b b* with the two rollers *a a* and the wick tube, or with an additional tube or collar *f* applied to such wick tube, as specified.

Also, the combination, as well as the arrangement, of the stops or guards *h h* with the rollers *a a* and the wick tube, applied and arranged together substantially as explained.

**70,393.**—GEORGE L. BENTON, Rochester, N. Y., assignor to himself and JOHN GREENWOOD, same place.—*Emery Wheel for Grinding and Polishing Saws, &c.*—November 5, 1867.—The emery wheel is concavo-convex and has an acute periphery to enter between the saw teeth.

*Claim.*—The emery wheel formed with the narrow grinding rim *a* and central depression *b*, and made of the conical or convex shape herein described, the same operating in the manner and for the purpose specified.

**70,394.**—JULIUS BEVINS, Unadilla Forks, N. Y.—*Device for Holding Sap Buckets*.—November 5, 1867.—The bracket is suspended from a nail driven into the tree, and has a hook below to support the bottom of the bracket, and an upper hook, against which the side of the bracket rests.

*Claim.*—The bar A, the hook B, and the curved hook C, when they are arranged in the manner specified.

**70,395.**—JOHN Q. BIRKEY, Philadelphia, Pa.—*Gas Stove*.—November 5, 1867.—Improvement on his patent October 31, 1865. The inverted cone through which the flame passes is surrounded by a cylindrical pipe concentric thereto. The air to supply the flame passes up the annular space between the cylinder and cone.

*Claim.*—First, the tube B, arranged in respect to the hollow cone D and wire-gauze or perforated disk E, substantially as and for the purpose set forth.

Second, the plate F, with its inclined inner edge arranged in respect to the perforated plate of wire-gauze disk E, substantially as and for the purpose described.

**70,396.**—THOMAS W. BISHOP, Austin, Ind.—*Corn Sheller*.—November 5, 1867.—The rotation of one miter wheel is communicated to the other; in the center of the latter is a throat through which the ear is thrust; the corn is rasped from the cob by the spiral flanges in the revolving spring box, whose sections are pressed together by springs.

*Claim.*—First, the combination with the shelling device E E of the gear wheels C and D, hub D<sup>1</sup>, and central opening D<sup>2</sup>, substantially as and for the purpose set forth.

Second, the serrated opening G, substantially as and for the purpose described.

**70,397.**—MILDRED BLAKEY, Pittsburg, Pa.—*Skelping Dies*.—November 5, 1867.—The slot at the upper side along the line of division of the dies admits the passage of the jaws of the pair of tongs by which the skelp bar is grasped in the middle of one end and drawn through the dies.

*Claim.*—The construction and use of the skelping dies, made either solid or separate, with a slot or opening *b* extending longitudinally along their upper part, through or between them, substantially as and for the purpose hereinbefore set forth.

**70,398.**—ALFRED BLISS, New York, N. Y.—*Gas Chandelier Attachment*.—November 5, 1867.—The flexible tube is more or less coiled on a wheel to suit the height of the chandelier. The gas passes into the annular chamber in the wheel through the tubular journal of the latter.

*Claim.*—The combination of a wheel or reservoir, supplied with gas in any convenient manner, with a flexible tube, for the purpose indicated.

**70,399.**—JONATHAN L. BOOTH, Rochester, N. Y.—*Manufacture of Rails for Railways*.—November 5, 1867.—Improvement on his patent August 28, 1866, (No. 57,467.) The curved cap is prevented from working longitudinally by indentations in the body of the rail.

*Claim.*—The combination of the body A, nicked and indented as described, with the cap B, substantially in the manner and for the purpose herein set forth.

**70,400.**—JONATHAN L. BOOTH, Rochester, N. Y.—*Manufacture of Rails for Railways*.—November 5, 1867.—Improvement on his patent August 28, 1866. The top of the body of the rail has a central longitudinal groove, forming a recess beneath the cap and allowing some elasticity in the latter.

*Claim.*—The cap B, in combination with a base A, having a longitudinal depression in its upper surface, substantially as and for the purpose specified.

**70,401.**—G. BOWERMAN, Napoleon, Ohio.—*Stock and Poultry Feeder*.—November 5, 1867.—The ball valve of the reservoir is raised by the pressure of the feet or nose of the animal, and allows the grain to run from the hopper into the feed trough.

*Claim.*—The bin or reservoir C, valve E, in combination with the rod F, lever G, and case A, constructed and arranged as and for the purpose set forth.

**70,402.**—H. B. BRIGGS, Clarksburg, Mass.—*Spinning Jack*.—November 5, 1867.—A projection of the carriage comes in contact with a lever pivoted in an adjustable standard, and by means of a connecting rod operates another lever which brings into action the belt shifter to cause the carriage to be drawn in by the race belt. The gradual passage of the belt on to the fast pulley causes it to slip at first, and modifies the speed of motion of the carriage at starting.

*Claim.*—First, the lever G, having a cam F at a suitable point thereon, for acting against the belt-shifter, substantially as described.

Second, the adjustable standard N and lever M, in combination, and arranged to operate with the carriage of a spinning jack, substantially as described.

Third, the combination of the adjustable standard N, lever M, lever G, and connecting rod I, or an equivalent connecting device, substantially as described.

Fourth, the levers M and G, applied to the shipper D, or the driving shaft of a jack for the purpose of bringing the fast pulley C into partial engagement with the race-shaft belt, substantially as and for the purpose above set forth.

**70,403.**—O. B. BROWN, Malden, Mass.—*Cleaner for Lamp Chimneys*.—November 5, 1867. The elastic cylinder is for application of a washing cloth to the interior of the chimney.

*Claim.*—A lamp-chimney cleaner, consisting of an elastic cylinder or tube attached to a handle, substantially in the manner described.



**70,404.**—ADDISON BUCH, West Earl Township, Pa.—*Straw Cutter*.—November 5, 1867.—The knife enters between the mouth and spring plates, the latter supporting the outer ends of the straw and preventing bending down before the knife.

*Claim.*—The construction and arrangement of the metallic plate A and spring-board B, in combination with the bottom plate C, and arrangement of the knife B and lever H, in the manner and for the purpose specified.

**70,405.**—A. W. BURROWS, Cleveland, Ohio.—*Illuminating Oil*.—November 5, 1867.—Composed of naphtha, 40 gallons; tincture of camphor, 1 pint; sulphuric ether, 2 ounces; linseed oil, 1 ounce; glycerine, 2 ounces; tannic acid, 1 ounce; benzoïn, 1 ounce; alum 4 ounces; and paraffine oil, 1 quart.

*Claim.*—The above described compound, composed of the ingredients herein given, in the manner as and for the purpose set forth.

**70,406.**—P. BYRNS and GEORGE STANNARD, Mendora, Wis.—*Churn*.—November 5, 1867.—The churn is attached to and operated by a rocking chair. It has a perforated transverse partition, against which the cream is dashed.

*Claim.*—The churn B, perforated board F, handles E E, chair A, and connecting rods C C, when all are constructed, arranged and operated as and for the purpose set forth.

**70,407.**—CHARLES W. CAHOON, Portland, Me.—*Steam Engine*.—November 5, 1867.—To avoid explosion in street steam carriages the water is heated in a stationary boiler, and when transferred to the carriage the tank that contains it is surrounded by some non-conducting material to prevent the unnecessary waste of heat.

*Claim.*—First, a carriage having a receptacle containing hot water under pressure, when the water has been heated at a place other than in or on the carriage, substantially as and for the purpose described.

Second, the combination of a carriage, receptacle, and engine, substantially as and for the purpose described.

Third, the combination of a non-conducting material with the receptacle upon the carriage, containing water heated and transferred as described, substantially as set forth.

Fourth, a reserve tank, containing water heated and transferred as described, for the purpose and substantially as set forth.

**70,408.**—DANIEL O. CARD, Rawsonville, Ohio.—*Bent Knee and Beam for Sleighs*.—November 5, 1867.—A single piece of timber is bent around to form both knees of a sleigh bent. The timber is braced by upper and lower metallic bars.

*Claim.*—The herein described bent knee and beam, as a new article of manufacture.

**70,409.**—J. L. CHAMBERS, Brooklyn, N. Y.—*Register Padlock*.—November 5, 1867.—The lock has a direction tablet slipped in from beneath, and confined by a hinged plate, which is locked fast simultaneously with the securing of the lock.

*Claim.*—First, constructing a lock with two independent bolts, which are so arranged as to act together, simultaneously locking both the hasp and bottom plate of the lock, said bolts being operated by a series of tumblers, which are worked by means of a flat key, substantially as described.

Second, securely locking the tablet in position by means of the bottom plate I, substantially as described.

**70,410.**—JAMES CHANDLER, Syracuse, N. Y.—*Telegraph Clock*.—November 5, 1867.—The descent of the clock weight being graduated in a reverse position at some other desired point or points, a wire in connection with the clock weight, and running over a pulley at the head of the longitudinal dial, elevates the index as the weight of the clock descends. The bell hammer is tripped by a wire operated by connection with the works of the clock.

*Claim.*—The application of cords and wires to the clock and weight, as herein described, for the purpose of indicating the time and striking the hour at various points.

**70,411.**—S. A. CHASE, Boston, Mass.—*Elastic Sash Elevator*.—November 5, 1867.—The elastic cords stretch to allow the depression of the sash, but, on retraction, replace it in position when the detaining catch is released.

*Claim.*—The mode of elevating window sashes by means of elastic cords, substantially in manner and for the purpose as described.

**70,412.**—HENRY CHATFIELD, Waleottville, Conn.—*Hoisting Apparatus*.—November 5, 1867.—Two belts are used for hoisting, one straight and the other crossed; fast and loose pulleys reverse the motions to raise or lower the weights. The toggle arms are so arranged that when either belt is on the fast pulley the arms will not be in line with each other, and hence the brake will be drawn away from the pulley and not hinder its free motion. When the toggle arms are brought in line with each other they force the brake against the pulley simultaneously while the belts are off the fast pulley.

*Claim.*—In combination with a hoisting machine, the toggle arms I. I. arranged and operating in connection with the belt shipper H, brake lever F, and brake G, substantially as and for the purpose herein specified.

**70,413.**—SAMUEL COLLINSIN, Buffalo, N. Y.—*Tongs*.—November 5, 1867.—The two outer tongs are rigid to the arms, and the central tongues are pivoted so as to oscillate freely in the plane of movement of the outer ones.

*Claim.*—Constructing tongs with two or more tongues *b c* for grasping several articles at the same time, arranged and operating substantially in the manner set forth.

**70,414.**—THEODORE R. COOK, Saratoga Springs, N. Y., assignor to HENRY LAWRENCE, Norristown, Pa.—*Mode of Lining Barrels with Sheet Metal*.—November 5, 1867.—Explained by the claims and illustration.

*Claim.*—Rubbing out or burnishing down the metal lining against the wood of the barrel to make the metal lining fit the inside of the barrel closely, substantially as described.

Also, as a new article of manufacture, a wooden barrel lined with sheet metal, which is made to fit the wood closely on the inside by being rubbed or burnished against it.

**70,415.**—THOMAS COOK, London, England, assignor to CHARLES POMEROY BUTTON, New York, N. Y.—*Fire-proof Safe*.—November 5, 1867.—The circular metallic door has a threaded edge which screws into an aperture in the front of the case. As the door is turned by the handle for the purpose of opening, the axial screw traverses in the aperture in the hinged arm, which thus maintains the direct line of motion to the hinge until the door is open, when it may be turned on its hinged arm. A reverse movement closes the door.

*Claim.*—The construction and application of a screw-fitting door to safes and depositories, substantially as above described.

Also, the hinged arm H and the screwed axis G, for supporting the weight of the door C and guiding the same in a true horizontal plane during the opening and closing of the said door, as above described.

**70,416.**—CHARLES FREDERICK COOKE, York, and JOHN STANDFIELD, Lambeth, England.—*Differential Wheel Gearing*.—November 5, 1867.—Intended especially for windlasses and hoisting apparatus, in which it acts a lock gear to prevent "backlash." In its simplest form it consists of four spur wheels. One spur wheel has interior cogs and is fast to the frame. A similar wheel, of slightly increased size, is fast to the chain drum; carriers containing two pinions of different sizes are fast to the arbor, and the pinions gear into the spur wheels. The surfaces of the pinions traversing with different speeds, the variation is made effective in giving positive motion to the chain drum.

*Claim.*—First, the novel combination and arrangement of differential wheel gearing, and its application to various purposes, in the manner substantially as described.

Second, the combination of our said differential



wheel gear with parts for the purpose of forming crabs and other hoisting apparatus into self-acting weighing machines, in the manner substantially as described.

**70,417.**—JOSEPH SIGLER, Madison county, Ind., administrator of the estate of JESSE P. CRAMPTON, deceased.—*Manufacture of Butter.*—November 5, 1867; antedated October 29, 1867.—Explained by the claim.

*Claim.*—The method herein described of improving common butter by churning it over in combination with new or sweet milk, white sugar, nitrate of potash, and liquid rennet, or their equivalents, substantially in the manner and in the proportions herein set forth.

**70,418.**—MORITZ CROHN, St. Louis, Mo., assignor to himself, H. W. VOLKERS, and GUIDO D'OECH, same place.—*Veterinary Narcotic Injector.*—November 5, 1867.—The common smoking pipe has a cover, to the top of which is attached a flexible tube that terminates in a rigid nozzle suitable for injecting purposes.

*Claim.*—The combination and arrangement of the bowl A, the tube B B', and the bellows C' c, substantially as and for the purpose set forth.

**70,419.**—COMMODORE DANIELS, Frémont, Ohio.—*Floating Water Power.*—November 5, 1867.—The wheels turn in channels of a floating structure moved in a current. The speed of the wheels is regulated by sliding gates and by the expansion of the flaring mouths of the channels.

*Claim.*—First, the sliding frame G, in combination with boats D and wheels F, the whole constructed and operating as herein described.

Second, the sliding frame G, in combination with boats D, wheels F, apron N, anchor piece g, the whole constructed and operating as and for the purpose substantially as herein set forth.

**70,420.**—BENJAMIN A. DAVIS, Petersburg, Va.—*Curing Tobacco.*—November 5, 1867.—The tobacco-curing house has a glass roof at an angle of 45° exposed to the south, and shutters beneath the roof, front and rear, for purposes of ventilation.

*Claim.*—First, the openings, with their covers, close under the roof, both front and rear, for the purpose of admitting air, ventilating, and carrying off the evaporation from tobacco while in the process of curing, as herein described.

Second, the process of drying or curing tobacco under a glass roof, substantially in the manner herein described.

**70,421.**—JOHN T. DAVIS, Jersey City, N. J., and WILLIAM C. SELDEN, Brooklyn, N. Y.—*Composition for Packing Journal Boxes, Joints, &c.*—November 5, 1867.—For journal or stuffing boxes and for packing: paper pulp, 16 parts; soapstone, 1; sulphate of zinc, 1.

*Claim.*—First, a composition of paper pulp, soapstone, and sulphate of zinc, or its equivalent, substantially as and for the purposes specified.

Second, a composition of paper pulp and sulphate of zinc, substantially as and for the purposes set forth.

**70,422.**—MARCUS DE VOURSNEY, Newark, N. J.—*Fastening for Coach Lamps.*—November 5, 1867.—The socket of the bracket slips upon a standard attached to the coach. The arms of the bracket have plates which are attached to the lamp case.

*Claim.*—First, a bracket A provided with arms a and a socket b, in combination with the standard B and with a coach lamp, substantially as and for the purpose described.

Second, fastening the socket to the back of the lamp by means of the arms a, substantially as and for the purpose set forth.

**70,423.**—HENRY DISSTON, Philadelphia, Pa.—*Device for Setting Saw Teeth.*—November 5, 1867.—The notched swage is hinged to rods, which are so adapted to and controlled by the collars, washers, and spindle of a circular saw, that the cutting edges of all the teeth of the latter, when set by the swage, must be at the same distance from the center of the saw.

*Claim.*—The notched swage F, in combination with adjustable rods G and G', the lower ends of which

are adapted to or arranged to embrace the collar and washer, or the spindle of a circular saw, all substantially as and for the purpose herein set forth.

**70,424.**—HENRY DISSTON, Philadelphia, Pa.—*Device for Sharpening Saw Teeth.*—November 5, 1867.—The cylindrical file while operating on the tooth is engaged by the sliding rod, which enters the concave of the adjoining tooth, and by a side bar determines the extent of the cut.

*Claim.*—First, the combination of a file or cutter A and a cross bar or guide F, so arranged in respect to the cutter as to determine the extent to which the latter shall penetrate the front of the saw tooth, all substantially as described.

Second, the combination of the above and a bar G, or its equivalent, so arranged as to determine the extent to which the cutter shall penetrate the saw blade.

Third, the mode, substantially as described of rendering the bar F adjustable to and from the file A.

**70,425.**—D. A. DIXON, St. Louis, Mo.—*Saddle Tree.*—November 5, 1867.—The pommel is extended forward to form a support for the saddle bags, and has a metallic loop to support the carbine. The corners of the cantle block are rounded off to permit swinging back of the legs.

*Claim.*—The combination and arrangement of the loop a' with the pommel A.

Second, the construction of the cantle C, substantially as described and set forth.

**70,426.**—W. ELMER and H. G. HUBERT, New York, N. Y.—*Ozone Generator.*—November 5, 1867.—The two chemical agents required for producing ozone are packed separately. When required for use the cap is removed, exposing the protruding part of the rod. The rod is driven to break the vial, and allows the contained sulphuric acid to flow into the cup. The acid filters through the porous cup, comes in contact with the porous granulated substance, saturated with permanganate of potassa. This causes a continuous production of ozone, which escapes through the holes.

*Claim.*—First, the combination and arrangement of the vessel A with the porous cup B the one filled with the granulated porous substance W, and the other partly filled with the liquid chemical reagent Z, in the manner substantially as and for the purpose set forth.

Second, the combination of the rod E, cement stopper e and cap T with the vial D and cup B, arranged so as to operate substantially in the manner specified.

Third, the granulated porous substance W, and the liquid chemical Z, in combination with a porous cup B, so that the reaction between the said chemical Z and substance W will take place, as set forth and for the purpose specified of producing ozone.

**70,427.**—JAMES FALLOWS, Philadelphia, Pa., assignor to PORTER and BOOTH, same place.—*Construction of Sheet Metal Buckets.*—November 5, 1867.—The contraction of a flared vessel is effected by corrugating the restricted parts.

*Claim.*—Producing the flared or flanged base of a sheet metal vessel requiring such a base by corrugating the sheet metal of the body of the vessel, substantially as described and set forth.

**70,428.**—WALTER H. FITZGERALD, Philadelphia, Pa., assignor to himself and W. H. SEXTON, same place.—*Shutter Bowing Bolt.*—The shutters are coupled by the joint bolt that engages in the keepers on the adjoining plates.

*Claim.*—First, in combination with a shutter bolt, the small friction bolt d on the plate C and the notches 3-3 in the bolt bar c'', the same being arranged to operate together as a stop or lock for the bolt bar, substantially as set forth and described.

Second, in combination with the subject-matter of the preceding clause of the claim, the small friction bolt f and the recess e in the plate C and the vertical hole in the forward end of the bolt bar c'', the same being arranged to operate together, substantially as and for the purpose set forth and described.

**70,429.**—ARMSTRONG FREEMAN, Lowell, Mich.—*Cattle Guard Gate.*—November 5, 1867.—The train



presses down the movable rail level to the tread of the line rail, and by its connections throws the gate up and back out of the way of the passing cars.

*Claim.*—First, the side rail H, lever I, chains L and levers K, as arranged, in combination with the gate A for the purpose and in the manner as set forth.

Second, the gate A and roller D, as arranged, in combination with the standard M', links N and weighted arm N', in the manner and for the purpose herein described.

**70,430.**—HUGH J. GRAHAM, Monmouth, Ill.—*Cultivator*.—November 5, 1867.—The plows are elevated or lowered by the connections of the beams to the corrugated bars in front, and by slotted sliding pendants to the handles in the rear. The pivoted bearers of the driver's seat are thrown forward on the axle when not in use. The driver's weight is balanced by altering the position of the clutches on the corrugated bars in front.

*Claim.*—First, the slotted bar O, in combination with the handles F F and upright bars P P, substantially as described and for the purpose set forth.

Second, the curved iron T, in combination with the notched bar V, clutch W, brace Q and sliding seat D, arranged as set forth and for the purpose claimed.

Third, the movable bar N, in combination with the handles for the purpose described and substantially as arranged.

Fourth, the clutch or slide W and notched bar V, substantially as described and combined for the purpose set forth.

Fifth, the hinge C in combination with the curve T for the purpose of giving vertical and lateral movement and for vertical adjustment.

**70,431.**—JAMES J. CRUVER and AMBROSE D. WIGGINS, Newmarket, Ohio.—*Churn*.—November 5, 1867.—The dasher rods are attached to the cranks of the shaft, and are raised and depressed alternately; the perforated and divided dashers are then brought down consecutively upon the cream.

*Claim.*—The slotted bed piece E, churn F, when provided with the tenon h and adjustable guide board m, all arranged in connection with the dasher bars b b, pitmen e e and double crank shaft d, as and for the purpose set forth.

**70,432.**—DAVID G. HASKINS, Cambridge, Mass.—*Gas Cooking Range*.—November 5, 1867.—Gas is burned in chambers in the jacket beneath, and the caloric current passes through holes and by pipes between the double casing of the stove, which is divided into various compartments, forming boiling chambers for different branches of cookery.

*Claim.*—First, the combination of the base A and combustion chambers a b, with the ovens or cooking apartments B C, and the interposed inclined flue space s, as and for the purpose specified.

Second, the combination of the base A and combustion chambers a b, the ovens or apartments E C, and the reservoir D, as and for the purpose specified.

Third, in combination with a gas cooking range, constructed substantially as described, a water back E, as set forth.

**70,433.**—DAVID GREENE HASKINS and JOSEPH WINLOCK, Cambridge, Mass.—*Lighting Rooms*.—November 5, 1867.—An oil-burning lamp is attached to the end of the gas pipe in place of the gas burner. The gas pipe is disconnected from the main supply pipe, and a fan blower supplies a draft of air to the lamp.

*Claim.*—The combination of a lamp a, provided with an air passage as described, the screw c, and air pipe d, in combination with an air-propelling apparatus, as and for the purpose set forth.

**70,434.**—NATHAN T. HEALY, Medina, N. Y.—*Harness*.—November 5, 1867.—The forked hip straps are attached to the breaching without buckles, and passing through a keeper at the junction with the backband their united strap buckles into the backband.

*Claim.*—Forming the hip straps E without intermediate buckles, and passing said straps loosely through the bearings C, and providing a suitable adjustment of the same on the back strap, as herein set forth.

**70,435.**—GEORGE H. HERON, Washington, D. C., assignor to himself and SAMUEL E. DAY, same place.—*Preparing Fish for Food*.—November 5, 1867.—Fish and salt in layers are placed in a vessel which will resist acid. Vinegar is poured on and the whole heated to about 170° Fahr., dissolving the bones.

*Claim.*—Preparing fish for food by the application of heat and a suitable acid, substantially as described.

**70,436.**—JESSE HIESTAND, Palestine, Ill.—*Bee Hive*.—November 5, 1867.—The body of the hive is sustained in a pendent position on a frame, at the tops of whose legs are inverted metallic cups to prevent the return of the miller worm after expulsion. The body consists of three vertical and one inclined side. The lower end of the latter extends beneath the others and forms an alighting board.

*Claim.*—The construction of the body or lower portion of the hive of three vertical boards A A A', and one inclined or sloping board, terminating at the bottom in a narrow entrance a, at the top in a honey chamber E, said hive being supported upon a frame G, which is provided with protectors g, substantially as described.

**70,437.**—PORTUS M. HINMAN, Rochester, N. Y.—*Preventing Tin Ware from Rusting*.—November 5, 1867.—The galvanic action between the tinned-iron sides and zinc bottom is considered unfavorable to the oxidation of the exposed iron portions.

*Claim.*—The herein-described method of protecting common articles of tin ware from rusting, by providing them with a zinc bottom or rim, substantially in the manner set forth.

**70,438.**—HIRAM INMAN and HORACE INMAN, Amsterdam, N. Y.—*Securing the Ends of Fellies*.—November 5, 1867.—The bevel edges of the fellies are connected in the flanged coupling block.

*Claim.*—The device for securing the ends of fellies constructed substantially as described.

**70,439.**—JAMES W. JONES, Cumberland, Md.—*Apparatus for Making Extracts from Bark and Other Materials*.—November 5, 1867.—The liquor is allowed to flow from the top of one vat to beneath the false bottom of an adjoining one. The liquor flows upward through the false bottoms and raises the finer particles of bark to the top. A drain pipe communicates with all the vats.

*Claim.*—First, extracting the strength from bark or other material by upward hydraulic pressure when the same is applied to a vessel having a box pipe with sliding valves and a false perforated bottom, substantially as described.

The false bottom C and pipe D, having sliding valves d<sup>2</sup> d<sup>3</sup>, when the same are combined and operated substantially as described and for the purpose set forth.

**70,440.**—F. KALI and S. ANDREWS, Rochester, N. Y.—*Boot Crimp*.—November 5, 1867.—The heel block in connection with the foot and leg blocks are expanded and regulated by the set screws.

*Claim.*—The heel block D for varying the position of the seam of the boot, and the metal lined sockets c c' beneath the blocks B C of the crimp, for the insertion and adjustment of the screws, the whole arranged and operating as herein set forth.

**70,441.**—ERNEST KAUFMANN, Philadelphia, Pa.—*Table Urn*.—November 5, 1867.—Explained by the claims and illustrations.

*Claim.*—First, a table urn which can be revolved on its stand, and is provided with two or more compartments or chambers c and faucets E, substantially as and for the purpose set forth.

Second, the arrangement and combination of an urn A, with two or more compartments c, annular lip a, stand B, ears b, lamp D, and faucets E, all constructed and operating substantially as and for the purpose shown and described.

**70,442.**—C. A. KIHLGREN, Boston, Mass.—*Picture Envelope*.—November 5, 1867.—Explained by the claim and illustration.

*Claim.*—The improved picture envelope, made substantially as described, that is, with its flap folded, and of a length so as to be capable of being laid over



both faces of the pocket, the same being as and for the object or purposes as hereinbefore explained.

**70,443.**—JOHN T. KIMBEL, Vernon, Ind.—*Pump*.—November 5, 1867.—The water is raised by solid pistons in combination with the valves of the side pipes.

*Claim.*—The combination and arrangement of the two solid pistons H H and the cylinders in which they work, with the ways and valves L L, and supplying and discharge pipes, all substantially as described.

**70,444.**—GEORGE BYRON, Kirkham, New York, N. Y.—*Window Fastening*.—November 5, 1867.—The sash is fastened by the double-pointed bolt that is projected by a drop bolt in its rear.

*Claim.*—The fastening, complete with its several parts, the body A, the double-pointed bolt B, the slide C, the catch E and the key, as described and represented.

**70,445.**—JAMES A. LAWSON, Troy, N. Y.—*Hot Air Furnace*.—November 5, 1867.—The caloric current diverges into two radiators; in these, each branch again separates into two streams, and converging, unite in horizontal flues.

*Claim.*—First, the radiators D, constructed and operating substantially as described, that is to say, in such manner as to receive the heat at their junction with the fire chamber, divide the currents, and then converge or reunite them at the upper end of the said radiator.

Second, the employment of two sets or series of such radiators, arranged and operating substantially as described for the purposes set forth.

Third, the employment, in connection with the two sets of radiators, of two horizontal pipes or conduits E E, communicating with the upper ends of said radiators, and with the exit pipe G near their centers, substantially as described.

Fourth, the dome or roof of the fire chamber, so constructed as to extend up between the sets of radiators, substantially as and for the purposes described.

**70,446.**—THOMAS LONG, Vandalia, Ill.—*Elastic Spring for Carriages*.—November 5, 1867.—The vertical india-rubber spring is placed around a spindle which passes from bow to bow of the spring and increases its strength.

*Claim.*—An india-rubber spring, constructed substantially as herein described.

Also, the combination of an india-rubber spring, constructed as described, with an elliptic spring, for the purpose set forth.

**70,447.**—F. W. LURMANN, Osnabruck, Prussia.—*Blast Furnace*.—November 5, 1867.—The block having the slag discharge has an upper dovetail which slides in a suitable cavity of its holding plate. The plate and block are perforated for passage of water, which is forced through the latter in greater or less quantities to regulate the flow of slag. The block fits in its place loosely and is luted around its edge.

*Claim.*—First, the slag discharge piece D, constructed and arranged substantially as described.

Second, the slag discharge piece D, in combination with the plate C to which it is fitted, substantially as described.

Third, the shape of the discharge opening or openings of the piece D, being made flaring at its ends, and of diminished diameter in the middle or central part, substantially as described.

Fourth, combining with the slag discharge piece a series of water channels or pipes, substantially as and for the purpose above set forth.

Fifth, combining with the metallie plate C a series of water channels or pipes, substantially as and for the purpose above set forth.

Sixth, the method of controlling the discharge of slag from blast furnaces by regulating the temperature of the slag discharge piece, substantially as described.

**70,448.**—J. I. MABBETT, Titusville, Pa.—*Bed Bottom*.—November 5, 1867.—The cross-pieces are supported on rubber springs connected to the posts and give support to the lower series of slats. The

upper series rest upon the under ones at the foot end only, and at other points are supported by blocks.

*Claim.*—The slats a b open at one end and connected at the other, combined with cross-pieces c d, blocks g h, and rubber springs i i connecting the bottom with the bedstead, when all are arranged as set forth and described.

**70,449.**—JAMES W. MALOY, Boston, Mass.—*Machine for Cutting Stone*.—November 5, 1867.—Improvement on his patents Nos. 53,845 and 58,853. The adjustable spindle, carrying the cutting tool, is arranged so as to operate on any part of the top or sides of the stone. A pointer is attached to the slide which carries the spindle, and a grooved pattern to the rotating portion of the table, by which the movement of the tool is directed.

*Claim.*—First, the combination of the spindle, which carries the cutting or finishing tool, with the adjustable block g, substantially as and for the purpose described.

Second, the adjustable block g carrying the spindle, whether the latter is vertical or horizontal, in combination with the movable cross-head e, as set forth.

Third, the pointer k, in combination with the adjustable block g and spindle h, substantially as and for the purpose specified.

Fourth, the former c, in combination with the cutting and polishing mechanism, substantially as set forth.

Fifth, the combination, with a sliding table b and rotating portion c, of a former c', as specified.

Sixth, the combination of the movable pointer k with the former c', when operating substantially as and for the purpose described.

**70,450.**—HUGH L. McAVOY and EZEKIEL MILLS, Baltimore, Md., assignor to E. MILLS, same place.—*Milk Can*.—November 5, 1867.—The mouth has a cylindrical and flaring portion and the cap screws into the former. The spiral ribs run from an upper to a lower circumferential rib.

*Claim.*—First, the milk can with spiral metallie strengthening stays around its cylindrical portion.

Second, the combination of the solid metal neck F G with the screw cap H J K, when constructed and arranged as and for the purposes specified.

**70,451.**—SOLOMON McWORTER, Barry, Ill.—*Evaporator for Sorghum and other Sirups*.—November 5, 1867.—The evaporator is heated by contact with a boiler, the contents of which are kept at a moderate pressure by communication with an elevated reservoir.

*Claim.*—First, the combination and arrangement of the evaporating pan A and the steam boiler B, substantially as described and set forth.

Second, the combination of the pipe D with the boiler B, as and for the purpose set forth.

Third, the employment of the stiffening ribs a, in combination with the flat crown sheet of the boiler, as described and set forth.

**70,452.**—HENRY B. MERRITT, St. Louis, Mo., assignor to I. H. MERRITT, Memphis, Tenn.—*Cotton Bale Tie*.—November 5, 1867.—The looped ends of the band are placed on two parallel pins connected together at one end by a curved portion.

*Claim.*—A tie piece A, when constructed substantially as described and set forth.

**70,453.**—GEORGE R. METTEN, St. Louis, Mo., assignor to HORACE BALDWIN, Painesville, Ohio.—*Fountain Pen*.—November 5, 1867.—The point of the nib when raised in the action of writing opens the outlet valve of the ink reservoir.

*Claim.*—First, in combination with an air-tight and flexible ink sack, which is applied within the handle or holder of a fountain pen, so as to be free to collapse as the ink flows from it, a tube e, which extends beneath the pen f, and is provided with a valve g at the point of discharge, so that in the act of writing the ink shall be caused to flow to the pen with greater or less freedom, according to the force and rapidity of the strokes, substantially as specified.

Second, a fountain pen, which is provided with a thin, air-tight, flexible sack, applied within the pen handle or holder by means of a ring e, in combina-



tion with a removable pen sheath, and supply tube *e*, substantially as described.

Third, in combination with the flexible sack *b*, and ink supply tube *e*, the conical valve or plug *g*, acting as a regulator during the act of writing, and serving to close the aperture when there is no pressure applied to the nib of the pen, substantially as described.

**70,454.**—CYRUS MOORE, East Saginaw, Mich., assignor to himself and ABEL BLAKESLEE, Detroit, Mich.—*Lubricating Oil*.—November 5, 1867.—Take 10 gals. of coal tar, boil and rectify to separate earthy matters; add benzine, 1 gal.; sperm oil, 1 gal.; alcohol, 1 quart.

*Claim.*—First, the method of manufacturing a lubricating oil by the process described.

Second, the use of the ingredients, and in the proportions substantially as described, for the purpose designed.

**70,455.**—THOMAS MORRIS, Clarboston, England, assignor to himself, JOHN MORRIS, and THOMAS C. KNOWLES.—*Compensating Forge Crane*.—November 5, 1867.—The forging is supported by a weighted chain passing over a sheave journaled to a frame which slides on the crane bar. The forging is balanced by a sliding weight upon a steelyard on the sliding frame, with which the supporting chain is connected. The support is adjusted vertically by a chain connected to one end of a lever whose other end is connected to the weight and steelyard.

*Claim.*—The lever *P*, adjusting weight *R*, and chain *q*, in combination with the weight *L*, sheaves *j*, chain *k*, and carriage *F*, arranged and operating substantially as and for the purpose set forth.

Also, in combination therewith, the lever *W*, and its connecting rods or chains *y y*, operating substantially in the manner and for the purpose specified.

Also, the guides *S S*, and stop bolts *u u*, provided with elastic shields *v*, arranged and operating with the lever *P*, for the purpose and in the manner described.

**70,456.**—ANDREW J. MORSE, Boston, Mass.—*Hose Coupling*.—November 5, 1867.—The end of the hose is held between an inside screw of the encompassing ring and a tapering portion of the tail piece, part of which is screw-threaded.

*Claim.*—In combination with the tail piece of the coupling, having a screw thread upon its outer surface, the encompassing ring having two screw threads, one for screwing upon the outer surface of the hose, and the other for connecting the ring to the tail piece, substantially as set forth.

Also, the recess *l*, and tapering screw or surface *f*, in combination with the encompassing ring and tail piece, substantially as set forth.

Also, the screw threads at the respective ends of the encompassing ring *h*, made to run in opposite directions, substantially as described.

**70,457.**—EDGAR G. NICHOLS, Beaufort, S. C.—*Implement for Transplanting Flowers, &c.*—November 5, 1867.—The conical, concave, pointed blades, are driven down on each side of the plant and raised with the dirt and roots intact.

*Claim.*—First, the making of a planter in two separate and similar parts, which, when united, enclose the roots of the plant and the soil next to them, preventing the soil from falling away from the roots in removing.

Second, the so curving or bending, or manufacturing of the blades, as shown in this specification and the drawings annexed, or the making of them in any manner which is substantially the same, that while they enclose the necessary space, yet shall they enter the soil with the least possible disturbance thereof.

Third, the shaping of the lower end of the shank to reach above the top of the blade, stiffen it, and allow thinner metal to be used for it.

Fourth, the making of a portion of the shank horizontal, forming a step for the foot to drive down the blade.

Fifth, the flattening of the handles on the sides approximating, to prevent slipping or rolling of the handles when clamped together.

Sixth, the making of a planter with the handles so long that it can be used without any stooping

at any part of the process, saving thus the largest and most unhealthy part of the labor.

**70,458.**—H. B. NICKERSON, Boston, Mass.—*Machine for Cutting Teeth of File Blanks*.—November 5, 1867.—The file blank carriage is moved intermittently beneath the cutters which deliver their blows consecutively at such an angle as to produce a cross cut or bastard file.

*Claim.*—The combination as well as the arrangement of the two cutters *A* and *B*, provided with mechanisms for raising and depressing them, as specified, with the file-supporting carriage *C*, having mechanism for imparting to it an intermittent motion in one direction, substantially as and for the purpose hereinbefore explained.

Also, the combination of such mechanism substantially as described, or its equivalent, for arresting the operation of a cutter, and its depressing mechanism or hammer, and maintaining such out of action preparatory to and while the other cutter and its operative mechanism may be at work, to produce the balance of the cuts to be made by such cutter last mentioned, the said additional mechanism being the cam bar *r*<sup>2</sup>, the levers *s* *t*<sup>1</sup>, the rod *u*<sup>1</sup>, latch lever *v*<sup>1</sup>, connecting rod *w*<sup>1</sup>, and springs *x*<sup>1</sup> and *y*<sup>1</sup>.

Also, the combination of parts constituting such additional mechanism.

Also, in combination with the file-supporting carriage *C*, its operative mechanism, and the two cutters *A B*, provided with mechanism for effecting their elevations and depressions, mechanisms substantially as described, or its equivalent, for gradually increasing the force of the blow of a hammer while the cutter thereof may be passing from the narrower to the wider parts of the file blanks, as explained, such last mentioned mechanism being the pattern guide *m*<sup>1</sup>, stud *n*<sup>1</sup>, forked lever *o*<sup>1</sup>, projection *p*<sup>1</sup>, wedge *q*<sup>1</sup>, and buffer *m*, arranged as explained.

Also, the combination of the guide *m*<sup>1</sup>, stud *n*<sup>1</sup>, forked lever *o*<sup>1</sup>, projection *p*<sup>1</sup>, wedge *q*<sup>1</sup> and buffer *m*, the whole being for the purpose explained.

Also, in combination with the file-supporting carriage *C*, its operative mechanisms, and the two cutters *A B*, and their mechanisms for effecting their proper elevations and depressions, the spring presser or its equivalent.

Also, the combination of the self-adjusting cutter head *a*, with the carrier slide *b*, and the force transmitter *c*, applied to the carrier as set forth.

Also, the combination or mechanism for operating the feed screw, such consisting of the ratchet *x*, the pawls *y z*, rocker levers *a*<sup>1</sup> *b*<sup>1</sup>, levers *e*<sup>1</sup> *f*<sup>1</sup>, and rods *e*<sup>1</sup> *e*<sup>1</sup>, rod *k*<sup>2</sup>, hoop *l*<sup>1</sup> and eccentric *f*, arranged, constructed, and applied together so as to operate as specified.

**70,459.**—GEORGE NIMMO, Jersey City, N. J.—*Eye for Pickaxes*.—November 5, 1867.—The eye is tapering and the metal is extended to lap upon the edge of the handle to form a larger bearing at the parts subject to strain.

*Claim.*—The eye for pickaxes and other tools, formed in the manner and for the purpose specified.

**70,460.**—CHARLES M. O'HARA, London, England.—*Propeller for Vessels*.—November 5, 1867; antedated October 26, 1867.—The two oscillating propellers of sector form are arranged in connection with the engines of a peculiar construction, whereby the propellers are acted upon by the motor directly.

*Claim.*—First, a propeller for vessels of navigation, made of sector form, and hung or suspended so as to operate or oscillate in a vertical plane, substantially as shown and described.

Second, driving or operating the propellers by means of engines, the cylinders or steam chambers of which are of curved form longitudinally, and provided with circular piston rods substantially as shown and described.

Third, the plates *H*, in combination with the oscillating propellers *C C*, substantially as and for the purpose specified.

**70,461.**—WILLIAM W. PAGE, Troy, N. Y., assignor to ARNOLD H. HOLDRIDGE and DANIEL E. PARIS, same place.—*Covers for Tea Kettles, &c.*—November 5, 1867.—The elongated end of the handle,



when raising the bail, presses on the projection to the rear of the hinge of the lid and thereby raises it.

*Claim.*—A bail and cover combined to vessels or kettles constructed with a cam or bulge at or near one end of the bail, so that it will operate on an arm, or one end of the cover, to raise it upward and let it down as the bail is shifted from side to side, when constructed substantially as herein described and set forth.

**70,462.**—P. A. PALMER, Troy, N. Y.—*Grate.*—November 5, 1867.—The movable, alternate bars are attached to a shaft and are rotated by a crank between their fellows to enliven the fire or adjust the draft.

*Claim.*—The alternate stationary bars B, in combination with the shaft C, bars E, and frame A, or their equivalents, as and for the purposes herein set forth.

**70,463.**—WILLIAM R. PAPE, Newcastle-on-Tyne, Great Britain.—*Breech-Loading Fire Arm.*—November 5, 1867; patented in England May 29, 1866.—The barrels are hinged to the stock, and tip to expose their rears for the insertion of the cartridges. A vertical spindle, socketed in the stock, has two wedge-shaped projections which lock into seats above the division metal between the two barrels and against a lug beneath the barrel, respectively.

*Claim.*—The vertical rotating spindle, carrying beveled catches 1 and 2 and spring 6, operating in combination with the lumps D and horizontal slots B and C in the rear of the breech, substantially as and for the purposes specified.

**70,464.**—ROBERT PARKS, Philadelphia, Pa.—*Tag.*—November 5, 1867.—Two longitudinal incisions are made in the end of the tag. It is folded with the outer sections slanting inward, and the whole secured with a tip.

*Claim.*—The tag A, constructed with cuts or incisions *a a* and parts *b c d*, or *b d*, folded over and secured substantially as and for the purposes set forth.

**70,465.**—E. PAULUS, Philadelphia, Pa.—*Watch Key.*—November 5, 1867.—For use in winding, the key is unscrewed from the pendant. When the key is in the pendant the central stem has a capacity for longitudinal motion to act upon the case spring.

*Claim.*—A combined watch key and push-piece, which is made a steady part of the case, the head or winding crown being directly screwed in the pendant, leaving the pipe free and movable, so as to act on the case spring to open the watch, and also to wind it up by taking it out, the whole constructed and operating substantially as described.

**70,466.**—HOWARD PERKINS, Mansfield, Mass.—*Rope-Making Machine.*—November 5, 1867.—A rotating head supports a series of spools carrying cords, which are brought together in the hollow spindle and twisted by rotation of the head. The doubled cord is automatically drawn and wound up at proper speed.

*Claim.*—The self-adjusting regulators K, constructed as described, in combination with their elastic cords N, as and for the purposes set forth.

**70,467.**—WILLIAM F. PHELPS, Winona, Minn.—*Frame for Suspending Maps.*—November 5, 1867.—The extensible hook-bar is vertically adjustable in the stand, and is retained to desired elevation by a pawl and ratchet.

*Claim.*—First, a horizontal bar, having longitudinally-sliding arms, provided with hooks, substantially as described and for the purpose set forth.

Second, the standard E, having steps K, in connection with the sliding standard D and spring I, when arranged to operate as shown and described.

Third, the adjustable standard E and horizontal bar A, provided with the sliding arms C C, when arranged to operate as described for the purpose set forth.

**70,468.**—A. L. RAND, Peoria, Ill.—*Wine Press.*—November 5, 1867.—The bottom of the press box consists of removable rollers, and beneath them, transversely thereto, is a cross-bolt which passes through the eye of the press screw. The follower consists of two side pieces and a central piece. The

press screw passes through the follower and the tubular pillar, which latter communicates pressure from the nut to the follower. The press box has vertical, angular grooves covered by perforated plates.

*Claim.*—First, the box A, provided with the perforated plates *g*, lifting plate *e*, and dripping board *m* and inclined chute I, when constructed and arranged to operate substantially as described and for the purpose set forth.

Second, the screw rod F, in combination with the tubular column G, lifting plate *e*, followers *h i j*, lever H, and rod E, when constructed and arranged to operate substantially as described and for the purpose set forth.

**70,469.**—LOUIS RAYMOND, Rockland, Del.—*Game Table.*—November 5, 1867.—The table has a circular, closed way along which the ball is driven. The way has an abutment at one end to deflect the ball among the numbered pockets, in one of which it lodges.

*Claim.*—The combination of the circular-recessed and figured platform, the horizontal, circular, covered, or enclosed way, and the abutment or deflecting surface D, all arranged as and for the purpose herein described and represented.

**70,470.**—THOMAS RETTEW, West Vincent Township, Pa.—*Churn.*—November 5, 1867.—The two dashers are so arranged that either may be rotated singly, or both rotated together, or in opposite directions. The lower semicylindrical portion has a double case, forming a semiannular space for circulation of air.

*Claim.*—First, the churn A as a whole, when constructed, arranged, and operating as shown and described.

Second, encasing the lower part of the churn to form a chamber for the circulation of air, as shown and described.

Third, the wheel D, plate wheel *m*, and the detent *n*, as shown and described.

**70,471.**—A. R. REYNOLDS and N. B. REYNOLDS, Auburn, N. Y.—*Tempering Steel.*—November 5, 1867.—A stream of water under head pressure is received into a chamber into which the article to be hardened is inserted in such a position as to receive the impact of the stream. The object is to enable hardening at a lower inceptive heat.

*Claim.*—Tempering articles made in whole or in part of steel, by means of a head of flowing water, and a guiding and holding hardening or tempering head, substantially as herein described.

**70,472.**—T. RICE and LUKE R. HITCHCOCK, Canadea, N. Y.—*Horse Hoe.*—November 5, 1867; antedated October 13, 1867.—The handles are connected together by a pivoted bar and bent springs to allow their oscillation to regulate the space worked.

*Claim.*—The combination of the curved perforated braces and hoe, as shown by Figs. 1 and 2, for the purpose of cultivating garden and field crops in the best and most desirable manner.

**70,473.**—A. J. ROSS, Rochester, N. Y., assignor to O. C. ROSS, Penfield, N. Y.—*Hitching Strap.*—November 5, 1867.—Explained by the claim.

*Claim.*—The strap or cord B, provided with the length *i*, for passing over and around the horse's head and through the rings of the bit and the buckle *k*, or equivalent, for fastening tightly under the chin, the whole arranged and operating in the manner and for the purpose herein set forth.

**70,474.**—R. W. RUSSELL, Brooklyn, and THOMAS HOWLAND, Stockport, N. Y.—*Preparation of Paper Pulp from Reed, &c.*—November 5, 1867.—The cane, &c., is subjected to the steam-blowing process described in Lyman's patent August 3, 1858, and then ground in a rag engine and macerated.

*Claim.*—First, the above-mentioned process of making paper pulp, papier-maché, and other articles, from vegetable fibrous substances, disintegrated as aforesaid by the said steam-blowing process without maceration, boiling, or chemicals.

Second, the method of treating vegetable fibrous substances which have been subjected to the said



steam-blowing process for the purposes aforesaid, by beating, grinding, ernshing, or bruising, and washing the same, before the boiling of the same in any chemical solution, substantially as described.

Third, the new articles of manufacture above described, that is to say, pulp of different kinds, suitable for the manufacture of paper and papier-maché, box-board, pasteboard, paper-board, felted-pulp, and other articles made either with or without the use of chemicals, substantially as above described.

**70,475.**—WILLIAM SCOTT, Plymouth, Mich.—*Carriage-seat Spring*.—November 5, 1867.—The spiral springs support the wooden seat springs of the wagon box.

*Claim.*—The arrangement and combination of the spiral spring A, the socket B, and the plate C, provided with the circular flange D, substantially as described for the purpose designed.

**70,476.**—CHRISTIAN SHUNK, Armstrong county, Pa.—*Manufacture of Refined Ingots of Iron and Steel*.—November 5, 1867.—To 100 lbs. of iron add metallic zinc, 2 oz.; block tin, 2 oz.; antimony, 1 oz.; lead, 1 oz.; placed in the molten iron in the crucible.

*Claim.*—The employment and the application of certain metals herein set forth, (or an equivalent, or either of the same separate from the other,) in the refining and converting molten crude iron into refined ingots of iron and steel, or semi-steel, by the pneumatic process, and of bar or wrought iron converted into refined steel ingots by the "pot" or crucible mode for melting the iron.

**70,477.**—WILLIAM M. SLOANE, Buffalo, N. Y.—*Portable Gas-generating Furnace*.—November 5, 1867.—The oil from the reservoir passes to the vaporizing chamber on top of the stove and thence by pipes to the retorts, whence the gas passes to the gas holder.

*Claim.*—First, the combination and arrangement of the vaporizing chamber B, with a common heating furnace or stove A <sup>a1</sup> a<sup>2</sup>, for the purpose and substantially as described.

Second, the combination and arrangement of the retorts C C, with the fire chamber of a common heating furnace or stove, for the purpose and substantially as herein described.

Third, the combination and arrangement of the furnace or stove A <sup>a1</sup> a<sup>2</sup>, vaporizing chamber B, retorts C C, and conducting pipe d, in the manner and for the purpose substantially as set forth.

Fourth, the valve G, for automatically regulating the supply of the hydrocarbon fluid to the vaporizing chamber B, substantially as described.

Fifth, the valve H, for automatically removing or conducting the surplus gas into the smoke flue of the furnace, substantially as described.

Sixth, the combination of the gasometer J, gas pipe E, branch pipe h', and waste valve H, for operating in the manner and for the purpose substantially as herein described.

**70,478.**—GEORGE O. SMITH and J. H. SMITH, Chicago, Ill.—*Roofing Compound*.—November 5, 1867.—Composed of ground limestone, 2 parts; ground coke, 1 part; sand and coal tar, 1 part.

*Claim.*—A roofing compound of the ingredients herein named, substantially as set forth.

**70,479.**—JAMES H. STERNBERGH, Reading, Pa.—*Metal Planer*.—November 5, 1867.—A rotary emery wheel is journaled in the head of the planer.

*Claim.*—The combination as well as the arrangement of the emery wheel E W, (or other grinding or polishing wheel or stone,) adjustable at various heights to snit the work, by means of the screw C, in connection with movable table T T, carrying the slide rest S R, and vice V V, or other suitable arrangement for holding the article to be planed or ground off for the purpose mentioned, substantially as set forth and described.

**70,480.**—EDWARD STEVENS and JOHN A. KNIGHT, St. Louis, Mo.—*Mail Bag*.—November 5, 1867.—The partitions and straps within the bag allow the separation of mails for different localities.

*Claim.*—The bar B<sup>2</sup>, the loop b<sup>1</sup>, and the partition B<sup>1</sup>, combined and operated as herein shown and described.

**70,481.**—E. M. STEVENS, Boston, Mass.—*Machine for Cutting Soles of Boots and Shoes*.—November 5, 1867.—The spindle to which the knife head is attached is so constructed that in its oscillating movements the cutter may be made to cut in one position, or by readjustment will make one-half a revolution at each upward movement, so as to enable the same to be alternately reversed at each downward stroke. The automatic gauge protects the upper leather and rises out of the way when the sole is cut, to allow the sole and scrap to be pushed off the table.

*Claim.*—First, the spindle C, constructed with the spiral and straight grooves in combination with the adjustable spring rod p, when operating in the manner and for the purpose set forth.

Second, the gauge h, in combination with the lever g g' and tripping device i, substantially as and for the purpose described.

Third, the arm F, attached to the cross-head D, and provided with a dog d and trigger G, in combination with the knife head E, as and for the purpose described.

Fourth, the adjustable and detachable scrap cutter K, as described.

Fifth, the combination of the cutter K, the block or holder I, and the knife head E, as described.

Sixth, the spindle C, constructed with the spiral and straight slots or grooves, as described.

**70,482.**—JOHN BLAKE TARR, Chicago, Ill.—*Mold for Casting Car Wheels*.—November 5, 1867.—Explained by the claim and illustration.

*Claim.*—A lining of the form of a car wheel, made of soapstone or other analogous solid refractory material, in combination with a strong sectional metal casing, such lining being in sections and applied within the sectional metal casing, so as to be adapted for giving form to a cast-steel car wheel, and the casing and lining of such strength combined as to be capable of sustaining the pressure which is requisite to insure a condensation of the steel of which the wheel is cast, all substantially as herein set forth.

**70,483.**—ALFRED THOMAS, Worcester, Mass.—*Lathe Way Smoother*.—November 5, 1867.—The lathe bed is fastened upon the movable table and the smoothing or reducing wheel is adjusted and a rapid motion is then imparted to it by a belt running upon the pulley. The table is run so as to carry the lathe bed under and in an opposite direction to the motion of the wheel, so that the wheel reduces and smooths one of the ways. The wheel is next changed to the other end of the shaft and the frame adjusted to bring the wheel in the proper position to smooth the other way.

*Claim.*—First, the combination with the frame C, cross-bar L, piece K, and slide piece E, of frame F, shaft H, and smoothing wheel J, substantially as and for the purposes set forth.

Second, the combination of the smoothing wheel J, shaft H, and pulley I, with the slide piece E, substantially as and for the purposes set forth.

**70,484.**—HIRAM C. THOMPSON, Bristol, Conn.—*Wire Bell for Clocks*.—November 5, 1867.—The coil on the end of the shank of the wire bell lies in a circular recess and is held by a bevel-headed screw.

*Claim.*—First, the coil or ring A when formed on a wire bell, substantially as and for the purpose set forth.

Second, the bell stand, Figs. 2 and 3, substantially as and for the purpose described.

**70,485.**—BENJAMIN C. TILGHMAN, Philadelphia, Pa.—*Treating Vegetable Substances for Making Paper Pulp*.—November 5, 1867; antedated October 26, 1867.—Explained by the claims.

*Claim.*—The process of treating vegetable substances which contain fibers with a solution of sulphurous acid in water, either with or without the addition of sulphites, or other salts of equivalent chemical properties, as above explained, heated in a close vessel under pressure, to a temperature sufficient to cause it to dissolve the intercellular incrusting or cementing constituents of said vegetable substances, so as to leave the undissolved product in a fibrous state, suitable for the manufacture of paper, paper pulp, cellulose, or fibers, or for other purposes, according to the nature of the material employed.



Also, as new articles of manufacture the two products obtained by treating vegetable substances which contain fibers with a solution of sulphurous acid in water, either with or without the addition of sulphites, or other salts of equivocal chemical properties, as above explained, heated in a close vessel under pressure to a temperature sufficient to cause it to dissolve the intercellular or incrusting constituents of said vegetable substance, one of said products being soluble in water, and containing the elements of the starch, gummy, and saline constituents of the plants, and the other product being an insoluble fibrous material, applicable to the manufacture of paper, paper pulp, cellulose, or fibers, or to other purposes, according to the nature of the material employed.

Also, the use and application, in the manufacture of paper, paper pulp, cellulose, and fibers, of the fibrous material produced by treating vegetable substances which contain fibers with a solution of sulphurous acid in water, either with or without the addition of sulphites, or other salts of equivalent chemical properties, as above explained, heated in a close vessel under pressure to a temperature sufficient to cause it to dissolve the incrusting or intercellular constituents of said vegetable substances.

Also, the use and application of sulphites or other salts of equivalent chemical properties, as above explained, in combination with a solution of sulphurous acid in water, as an agent in treating vegetable substances which contain fibres, when heated therewith in a close vessel under pressure to a temperature sufficient to cause said acid solution to dissolve the intercellular or incrusting constituents of said vegetable substances.

Also, the recovery and re-use of sulphurous acid and sulphite from the acid liquids which have been digested on the vegetable fibrous substances, by boiling said liquids, or neutralizing them with hydrate of lime.

**70,486.**—SAMUEL H. WHITAKER, Covington, Ky.—*Apparatus for Casting Car Wheels.*—November 5, 1867; antedated October 16, 1867.—The hub, web, and inner portion of the rim are first cast with iron, which is poured in at a gate on the hub. A head suspended on a central axis forms the upper side of the mold forming the outer face of the wheel. The drag which formed the circumferential boundary for the iron being then lifted exposes the space into which the steel is poured through a gate on the rim, taking its shape by the inner surface of the curb. The cope being removed, the mold is swung on its axis upon the follower of a hydraulic press, which elevates it against an annular die which presses on the steel to bring it into intimate connection with the iron.

*Claim.*—First, a flask for casting together two or more metals, consisting of the drag F, curb I, cope or cut-off J j, suspended head K, and gates N and O, the whole being combined and adapted to operate as set forth.

Second, in the described combination the flask F I J j K N O and press A B C D E, or their equivalents, for casting a steel rim and compressing and welding the same around an iron web or body while in a semi-molten condition, as set forth.

Third, the parts A, B, C, D, and E, forming a press for compressing the steel tire of a car wheel, while in a semi-fluid condition, as set forth.

**70,487.**—CHESTER F. WICKWIRE, Cortland, N. Y.—*Window Sash Fastener.*—November 5, 1867.—The cam lever is projected into a recess in the casing by the screw bolt attached to the rear of the lever. The pin engaging in the slot locks it in position.

*Claim.*—First, the slotted bent lever *b*, operating upon the pin *d* for the purpose of holding the sash in position when raised.

Second, the slotted lever *b*, in combination with the slotted plate *g*, for the purpose of locking or permanently fastening the sash when down, or locking it at any particular point.

**70,488.**—WILLIAM W. WILCOX, Middletown, Conn.—*Fastening Eyelets.*—November 5, 1867.—The oblique teeth on the ring penetrate the goods when the flange of the eyelet is swaged down over it.

*Claim.*—First, the arrangement of a rough surface

ring *b* between the flange of an eyelet and the material to which the same is to be fastened, substantially as and for the purpose described.

Second, providing the rough surface ring, when used in combination with an eyelet with oblique teeth, as and for the purpose set forth.

**70,489.**—H. W. WILLIAMS, Stowe, Vt.—*Bed Bottom.*—November 5, 1867.—The flat steel springs, in combination with their sliding boards, connecting rods, and horizontal levers, form an elastic bed bottom.

*Claim.*—The flat steel springs A, their sliding boards B, with connecting rods C and horizontal levers D, when arranged and combined as herein described and for the purposes set forth.

**70,490.**—EDWARD S. WINCHESTER, Boston, Mass.—*Tip for the Feet of Chair Legs.*—November 5, 1867.—The rubber ferrule fits on the feet of the chair, so as to deaden the noise made by its removal.

*Claim.*—The india-rubber tip constructed as described, that is, formed as a ferrule, to be placed upon the foot of the chair, the ferrule increasing in thickness from its center B to its open end A; also, increased from its center B to the closed end, or base thereof, on which the foot of the chair rests.

**70,491.**—A. T. WOOLSEY and A. F. HUBBELL, Sandusky, Ohio.—*Sled.*—November 5, 1867.—The runner and rave are composed of a single piece, which is bent back at the nose of the runner to form the rave.

*Claim.*—The construction of a runner A and side rail A' of one entire piece, in the manner and for the purpose set forth.

**70,492.**—WALTER YOUMANS, Lansingburg, N. Y.—*Car Truck.*—November 5, 1867.—Improvement on his patent, August 27, 1861. The platform is connected with the trucks by means of vertical guides, and is supported on springs attached to the truck frames, so that the body of the car has a free vertical, unaccompanied by any lateral, movement.

*Claim.*—Connecting the body or platform of the car with the truck frame or frames, substantially as described, so that the former shall be free to move up and down on the latter with springs interposed, and so that the body or platform shall not move longitudinally or laterally independent of the truck frame or frames, when this is combined with the connection of the axle with the truck frame, so that the said axles shall be free to move under it, substantially as described and by the means described, or the equivalents thereof.

Also, connecting the ends of the under bolster with the wheel axles by means of clamping blocks, substantially as described, in combination with the double cross-bars, or the equivalent thereof, connected with the clamping blocks both above and below the horizontal plane of the axes of the wheel axles, substantially as and for the purposes specified.

**70,493.**—D. K. ALBRIGHT, Philadelphia, Pa., and L. H. DE LANGE, Bordentown, N. J.—*Hat.*—November 5, 1867.—The brim and body are perforated, and the perforations covered by the band, which inclines outward at the brim. Air circulates within the annular space beneath the band and through the perforations.

*Claim.*—First, the band D, connected to the body and brim of a hat, and arranged in respect to the same, substantially as and for the purpose herein set forth.

Second, the holes *e* in the brim and the holes *d* in the body of the hat, in combination with and arranged in respect to the band D, as described.

**70,494.**—CHARLES E. ALDEN, Philadelphia, Pa.—*Gas Stove.*—November 5, 1867.—The inner casing has a series of radial air holes above the burner, which may be partially or wholly closed by the vertical adjustment of the outer casing. The flame ascends a cylindrical pipe and a register damper allows more or less air to ascend the annular space around the cylinder.

*Claim.*—First, the casing B, wire gauze or perforated plate E, and holes *i i*, in combination with the adjustable casing F, the whole being constructed and arranged substantially as and for the purpose herein set forth.



Second, the combination of the above internal tube *m* and valve *n*.

**70,495.**—C. F. ALLEN and L. W. CAMPBELL, Aurora, Ill., assignors to themselves, A. T. HALL, and A. I. AMBLER.—*Heating and Ventilating Apparatus for Railway Cars.*—November 5, 1867.—The air is collected by hoods on the roof, conducted through conduits and chambers where it is purified by contact with water, and thence to the interior of the car. In winter it passes through a heating chamber before entering the car.

*Claim.*—First, the combination of the grating G and sieve D with the bonnet A, partitioned pipe C Q *g*, pipe L, water chamber E' or M, and register pipe R *x*, substantially in the manner and for the purpose described.

Second, the combination of the chamber E, chamber M, warming apparatus as described, and register pipe R *x*, substantially in the manner and for the purpose described.

Third, the construction of the warming apparatus for a car or coach, in the manner substantially as described, and arranging the ventilator in such relation thereto that the portion of the air forced into the ventilating pipes will be employed for promoting combustion, while the other or greater portion is heated and distributed in the car, all substantially as described.

Fourth, the register F, applied to the ascending conduit Q above the water chamber E, substantially as described.

**70,496.**—JOHN M. ALLEN, Cambridge, Mass.—*Nail Machine.*—November 5, 1867.—The two rolls have counterpart longitudinal, wedge-shaped, rectangularly-edged projections and recesses, to cut into nails the plate passed between them.

*Claim.*—A machine for cutting nails, without waste, from plate or sheet metal, in which the dies are formed longitudinally on the surfaces of the rollers, in the manner and for the purpose described.

**70,497.**—PETER ALLEN, Rutland, Vt., assignor to himself, L. VALLIGNETTE, and CLEOPHAS BRODEUR, same place.—*Railway Chair.*—November 5, 1867.—The two cast-iron plates forming the bed and sides of the chair are connected by two transverse bolts, and are secured to the sills by two spikes on each side, passing through both plates, and notches in the rails.

*Claim.*—The plate B, in combination with the plate B', with the tongue *b*, fitted in a recess in the bed *a*, constructed and secured with screw bolts and spikes, as herein described.

**70,498.**—W. J. ARMSTRONG and CHARLES BROWNE, Brooklyn, N. Y.—*Anehor.*—November 5, 1867.—The arms of the stock swing away from the head to allow disengagement of the cable when fouled.

*Claim.*—First, attaching the crown B to the shank A by passing a tenon formed upon the lower end of said shank through a mortise formed in the said crown, and securing them in place by blocks D firmly attached to the side of the projecting end of said tenon, substantially as herein shown and described and for the purpose set forth.

Second, forming the stock E in two parts and attaching them to the upper end of the shank A by passing tenons formed upon the inner ends of said parts through a mortise formed in the upper end of said shank, and securing them in place by means of blocks F firmly attached to the projecting ends of said tenons, substantially as herein shown and described and for the purpose set forth.

**70,499.**—C. H. ATWOOD, New Britain, Conn.—*Snap Hook.*—November 5, 1867.—The pivoted spring bar and hook end have counterpart rabbets, which engage when the bar is thrown out by the spring.

*Claim.*—First, the snap hook constructed as described, consisting of the circular solid plate A, having loop B and lugs *a* cast upon it; between the latter, the straight bar D pivoted and held in place against the turn-up end C by means of the spring *e*, as herein set forth, for the purpose specified.

Second, the casting of the projection C with the plate A, in the same plane with the same, and then bending C in hook form, substantially as and for the purpose specified.

**70,500.**—ELLCOTT D. AVERELL, New York, N. Y.—*Card Rack.*—November 5, 1867.—The wire coil around the edge of the stand forms a holder for cards, which are slipped between the wires.

*Claim.*—The arrangement on a curved or circular surface of a stand or frame of a coiled wire or spring, and forming, in combination with said stand or support, a card or paper holder, essentially as herein set forth.

**70,501.**—HENRY AXTELL, Huntington, Mass.—*Whip Rolling Machine.*—November 5, 1867.—The whip lash is attached to a weighted cord and drawn through between a longitudinally reciprocating bar and another bar pressed toward the former by levers actuated by a treadle.

*Claim.*—First, a device for rolling whips consisting of a frame A having a reciprocating bar J and adjustable bar G, between which the whip is rolled, the bar J being operated by power and the bar G by the levers F and F' with their treadle attachment, the whole being arranged substantially as and for the purpose described.

Second, the device for drawing the whip through the rolling machine, consisting of the cord *k*, having the weight *m* passing over the pulleys *g* and *g'*, in combination with the rest of the machine, substantially as described.

**70,502.**—THOMAS J. BARNES, Cambridge, Ill.—*Horse Yoke.*—November 5, 1867.—The yoke has hooks for attachment to the hames and connects the latter to the load by the chains attached to its central bar.

*Claim.*—First, an improved horse yoke made in two parts A and B, and in substantially the form and manner herein shown and described.

Second, the combination of the short chains C and equalizing bar D, to which the draft chain is attached with the parts A and B of the yoke, substantially as herein shown and described and for the purpose set forth.

**70,503.**—JAMES W. BARNUM, New Orleans, La.—*Cotton-Bale Tie.*—November 5, 1867.—Each end of the cord is passed around in one of the semicircular grooves of the block and brought back to be twisted around itself.

*Claim.*—The device herein described and as shown upon the drawings, when provided with the two overlapping semi-annular grooves or curved supporting points A A', as described, when constructed as described and used for fastening the ends of wire rope or of common untwisted wire that is employed for banding cotton bales, as set forth.

**70,504.**—A. ELY BEACH, Stratford, Conn.—*Pneumatic Railway.*—November 5, 1867.—The tube is enlarged at the stations to allow the passage of air past the car. The air is prevented from issuing from the passenger-exit opening by the car itself, which extends past the opening in each direction. The cradle consists of a frame formed of transverse segments or of longitudinal pieces, and the track is laid upon its upper edges. A covered recess in the upper side of the tube admits light at the stations.

*Claim.*—First, the enlargement of the tube at or near the stopping station, substantially as and for the purpose herein shown and described.

Second, the method of preventing the leakage of air at the openings, substantially as herein shown and described.

Third, the method of supporting the cars and rails, substantially as herein shown and described.

Fourth, the recess F for lighting the tube, substantially as herein shown and described.

**70,505.**—GEO. M. BEARDSLEY, Fenton, Mich.—*Car Coupling.*—November 5, 1867.—The hooks are connected by toggle arms to the slide, which is moved longitudinally to open or close the hooks to disengage or engage the coupling bar of the opposite draw-head.

*Claim.*—The double hooks D D with operating arms and levers, in combination with the arrow-headed coupling bar, its frame, and springs, all constructed and arranged as described and for the purpose as set forth.

**70,506.**—HENRY BEEBE, Hudson City, N. J.—*Cane and Umbrella Combined.*—November 5, 1867.—Explained by the claims and illustration.



*Claim.*—First, the two tubes B F, in combination with the handle A and body E of the cane or umbrella stick, and locked together by the T-shaped slots and the shaft k of the lamp burner, substantially as shown and described.

Second, the sleeve D drawn over the tube B and provided with openings e e' and the mica or other transparent material f secured between them, in combination with a cane or umbrella stick, substantially as and for the purpose specified.

Third, the perforated tube I, in combination with the two tubes B F provided with the cross-slots and the lamp G, substantially as and for the purpose set forth.

Fourth, the conical wire-cloth or perforated metal tube C secured within the tube B, provided with openings a, the tube F, and lamp G, in combination with a cane or umbrella stick, substantially as and for the purpose specified.

**70,507.**—WM. JONES BERNE, Cincinnati, Ohio.—*Adjustable Calks for Horse-shoes.*—November 5, 1867.—The heel calks are upon sockets, which are run upon the heels of the shoes and secured by set screws. The toe calk is attached to a cross-bar which takes over the inner edge of the shoe, and by a hinged plate, which passes around the outside and is connected to the heel sockets by bolts and straps.

*Claim.*—First, the mode of securing the sockets A by means of the set screws A<sup>2</sup>, arranged to operate in combination therewith, substantially as set forth.

Second, in combination with the sockets A, the use of an elastic substance A<sup>3</sup> interposed between the heel of the shoe and the socket, substantially as set forth.

Third, the toe piece B rigidly attached to the cross-piece C for attaching the same to the shoe, substantially as set forth.

Fourth, in combination with the toe piece B, the front extension B<sup>2</sup> hinged thereto, and arranged to operate substantially in the manner set forth.

Fifth, the combination of the cross-piece C, the toe piece B, hinged extension B<sup>2</sup> of the toe piece, rods E, and straps D attached to the sockets A, substantially as set forth.

**70,508.**—JOSEPH BEVIS, Putnam, Ohio.—*Washing Machine.*—November 5, 1867.—The segmental frame is connected to a pivoted shaft and supports an apron on which the clothes are laid and operated on by the fixed washboard beneath and the vertically reciprocating presser board above. The latter board is actuated by a rotating eccentric.

*Claim.*—First, the combination of the stationary washboard B, movable washboard or presser C, and cam D, with each other, and with the tub A, substantially as herein shown and described and for the purpose set forth.

Second, connecting the movable washboard C to the cam D, by means of the yoke G, cross-head or bar H, bolts I, and spring J, or by an equivalent adjustable and elastic device, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the swinging frame N, having a canvas or equivalent bottom R attached to it, with the washboards C and B, substantially as herein shown and described and for the purpose set forth.

**70,509.**—LYMAN G. BIGELOW, Albion, Mich.—*Solar Camera.*—November 5, 1867.—The box is hinged to the stand, and connected therewith at other points by an extensible screw swivel, whose parts are connected by gimbal joints to the box and stand, respectively.

*Claim.*—First, the universal jointed connection K, constructed and arranged substantially as described for the purposes set forth.

Second, operating a solar printing camera from east to west, and to and from the zenith, (being a combination of two motions,) by turning a single screw, substantially as shown and described.

**70,510.**—JOHN JAMES BODMER, Newport, Great Britain.—*Preparing Cements from Slags.*—November 5, 1867.—The slag as it runs from the surface is mixed with lime, and prepared by rolling into sheets, or is cooled suddenly in water to render it easily pulverized for incorporation with other materials.

*Claim.*—The use of slag or scoria, produced by

blast or other furnaces, (or when produced by other means,) in combination with lime, or with lime and alumina, in the formation of cement, substantially as described.

**70,511.**—E. BOURDEN, Paris, France.—*Device for Operating Folding Valves.*—November 5, 1867.—The flexible band lies upon the perforated plate which forms its seat and rolls or unrolls thereupon to open or close the passage way. The band is connected to an arm on a shaft which passes through a stuffing box to the outside of the case.

*Claim.*—The combination with the valve box, and suitable orifice or orifices formed therein, of the membranous or flexible valve, and lever for operating the same, substantially as and for the purposes herein set forth.

**70,512.**—JOHN F. BOYNTON, Syracuse, N. Y.—*Carbureting Gases and Air.*—November 5, 1867.—The gas passes into one chamber and through the perforated partitions and porous material saturated with hydro-carbon liquid into the chamber, whence it issues to the service pipe.

*Claim.*—First, in an apparatus for carbureting gas for illuminating purposes, the use of double perforated walls B B, having a suitable capillary substance confined between them, said walls being so arranged as to form a porous division through which the gas is forced, substantially as described.

Second, the forming of two compartments in a vessel by means of an upright double walled partition, which is rendered sufficiently porous to allow of the absorption of the fluid in said vessel, and the passage of gas through it, substantially as described.

**70,513.**—LEOPOLD BRANDEIS, Brooklyn, N. Y.—*Alloy for the Manufacture of Metal Sheets, Foil, &c.*—November 5, 1867.—An ingot of 25 parts zinc and 75 parts lead is covered with tin and rolled out for roofing. A less proportion of zinc is used for making foil and the metal is heated with hot water or steam between rollings to render it ductile.

*Claim.*—To produce metal sheets of any thickness, perfectly pliable, not easily acted upon by weather and temperature, of great strength and durability, for roofing, plumbers', tinmens', and chemical use, for grocers, tobacconists, perfumers, and confectioners, by making an alloy of lead and other metals in suitable proportions and shape by protecting this alloy with a coat of tin surrounding it, and to produce from this alloy, so prepared, sheets or leaves of any size and weight, and for the device of application of hot water or steam between the rollings.

**70,514.**—J. L. BROWN, New York, N. Y.—*Wood Pavement.*—November 5, 1867.—The wooden street pavement is formed of foundation timbers imbedded in earth, sprung in an arch shape from curb to curb, and supporting sections of interlocking wooden paving blocks.

*Claim.*—The employment of arched formation timbers laid crosswise of the street, in combination with any suitable earthy foundation, and sections of wooden pavement resting upon such foundation, and overlapping the arched timbers, substantially as described.

**70,515.**—GEORGE R. BURDON, Waltham, Mass.—*Blackening Brush.*—November 5, 1867.—The circular blackening brush is supported in a ring hinged to the back of the shining brush, and admits of swinging over to bring it in contact with the blackening contained in a box let into the back. When in operating position the blackening brush is held by a catch.

*Claim.*—The combination and arrangement of the brush E, with the grooved head G, ring I, spring M, joint J, holder A, and blackening box L, substantially as described for the purpose specified.

**70,516.**—NELSON C. BURNAP, Argusville, N. Y.—*Construction of Milk Cans.*—November 5, 1867.—Improvement on the patent of H. A. Crane, July 12, 1864. The object is ease in cleansing the can. The devices are explained by the claim and illustration.

*Claim.*—A milk can when provided with a rounded connection between sides and bottom, and when combined with a similarly rounded protecting bottom B, having a flange a, and with a ring C, all made sub-



stantially as and for the purpose herein shown and described.

**70,517.**—JOHN BURT, Sturgis, Mich.—*Carriage Seat Back*.—November 5, 1867.—Explained by the claim.

*Claim.*—The within described vehicle seat, in which the back and ends with round corners are formed from a single piece of wood of proper length and thickness, shaped and bent to the desired shape, as set forth and described.

**70,518.**—FRANKLIN P. BUSH, Cincinnati, Ohio, assignor to himself and JEPHIA GARRARD, same place.—*Mash Cooler*.—November 5, 1867.—The coils of cold water pipes are supplied from an axial pipe, and discharge into an annular chamber around the axis. The constant stream of water keeps the coils cool as they revolve in the mash.

*Claim.*—First, the arrangement of tun A, central annular waste way D, rotary centrally discharging coils J, central supply pipes G I, stuffing box H and rake L, for the purpose set forth.

Second, in the described combination the rotary coils J, discharging into a central waste way D, in the manner set forth.

**70,519.**—WM. M. BUTLER, Waukegan, Ill.—*Machine for Sharpening Calks of Horseshoes*.—November 5, 1867.—The frame is clamped to the horseshoe while on the foot, and the calks sharpened by the rotary cutter.

*Claim.*—First, a machine for sharpening horseshoes, made and operating substantially as herein shown and described.

Second, the device for moving the cutter C forward, consisting of the spring g, nut f and shaft B, all made and operating substantially as herein shown and described.

Third, the device for moving the cutter laterally, consisting of the slotted frame A, screw k, sleeves l and shaft B, all made and operating substantially as herein shown and described.

Fourth, the frame A, when provided at the corners with projections a and set screws b, so as to be easily fastened on any sized shoe, and when provided with slotted flanges h h and bolts and nuts i for the same purpose, substantially as set forth.

**70,520.**—JAMES EARL, Caithness, England.—*Ship's Compass*.—November 5, 1867.—A weighted rod is suspended beneath the compass to steady it in its oscillating movements.

*Claim.*—The combination of a mariner's compass and a weighted pendulum, secured to the compass box, and having near the upper end a ball, which fits in a stationary socket, all substantially as and for the purpose described.

**70,521.**—LUTHER W. CAMPBELL, Aurora, Ill., assignor to himself, A. T. HALL, C. F. ALLEN, and A. J. AMBLER.—*Piston Packing*.—November 5, 1867.—The pressure of steam passing through the perforated head expands the conical ring against its corresponding ring, while the steam is admitted into one end of the cylinder. When the steam is admitted into the other end of the cylinder, it passes through the perforations of its corresponding head, expanding the rings upon the face of the hub.

*Claim.*—First, so arranging a series of concentric elastic rings K G and E, having alternately inclined faces, that, acting in combination with the conical hub A, and packing rings H H, they shall maintain a uniform outward pressure upon the latter by the action of the steam alternately entering each end of the cylinder, substantially as set forth.

Second, the combination of the perforated heads B B', conical hub A and rings E F G K and H, arranged to operate substantially as set forth.

**70,522.**—LUTHER W. CAMPBELL, Aurora, Ill., assignor to himself, A. T. HALL, C. F. ALLEN, and A. J. AMBLER.—*Piston Packing*.—November 5, 1867.—The double conical central ring surrounds the fixed hub upon the piston rod, and has around it a series of concentric rings, so adjusted that the packing rings upon each end of the piston head are alternately expanded by the pressure of the steam as it enters

the opposite end of the cylinder, and act against the inclined faces of the corresponding rings.

*Claim.*—First, so arranging a double series of concentric elastic rings F G and H, that, acting in combination with the central ring E, having double inclined faces E<sup>2</sup>, they may by the pressure of the steam, alternately admitted to the opposite ends of the cylinder, be alternately expanded, substantially in the manner and for the purpose set forth.

Second, the combination of the hub A, perforated plates B B', ring E, having a central flange E<sup>1</sup> and double inclined faces E<sup>2</sup>, and the concentric rings H G and F, constructed and arranged to operate substantially as set forth.

**70,523.**—J. P. CHAMPION, Phelps, N. Y.—*Apparatus for Raising and Securing the Legs of Horses to Shoe Them*.—November 5, 1867.—The straps after taking a double hitch are tightened by the pivoted lever attached to the frame above.

*Claim.*—The apparatus for raising and securing the legs of horses to shoe them safely, arranged and applied as herein shown and described.

**70,524.**—HENRY C. CHANDLER, Indianapolis, Ind.—*Cylinder Printing Press*.—November 5, 1867.—The segmental cog bars on the ends of the revolving impression cylinder engage with straight cog bars on the edges of the bed to carry it under the cylinder in the process of making the impression. The bed has a quick return movement by means independent of that which carries it under the impression cylinder.

*Claim.*—Moving the bed B under the impression cylinder C at the time of making the impression by means of the pins S and standards R, segmental cog bars G and cog bars F, in combination with the devices for giving the return movement to the bed by means independent of that which carries it under the cylinder, in the manner substantially as set forth.

**70,525.**—MATHEW CHAPMAN, Greenfield, Mass.—*Table Cutlery*.—November 5, 1867.—Explained by the claim and illustration.

*Claim.*—As a new article of manufacture, table cutlery, having the blade, bolster, and handle forged or swaged from one solid piece of steel, substantially as herein described.

**70,526.**—CYRUS R. CLARK, Cobalt, Conn.—*Sleigh Bell*.—November 5, 1867.—The thin metallic plates attached to the shank of the bell pierce the strap and clinch on its inner surface.

*Claim.*—Attaching sleigh bells to their straps by means of two or more sheet-metal plates b b, which are secured to a shank a that is cast with the bell A, all made substantially as and for the purpose herein shown and described.

**70,527.**—MARK COFFIN, Milton, Ky.—*Horse Hay Fork*.—November 5, 1867.—The pivoted forks are tripped by the action of the cord on the lever ring which connects with the trigger.

*Claim.*—The arrangement of the rope C, having the ring F, knot c', and trigger E, with the bent lines A D, pulley block B, and rope G, as herein described for the purpose specified.

**70,528.**—E. T. COLBURN, Boston, Mass.—*Method of Stopping and Starting Cars*.—November 5, 1867.—By laying hold of the longer arm of either lever and pulling it toward the car body the rope will be drawn tightly on the two wheels, and by its friction will serve as a brake. By ungearing the retaining pawl the bar will move independently of the carriage body, and the rope is tightened on the wheels and drawn through the blocks so as to produce a rotary motion of the wheels by which the car is driven ahead.

*Claim.*—The combination of the slide bar D and its locking pawls with the brake mechanism, consisting of the levers F, the blocks G, the rope I, and the wheel or wheels H, the whole being substantially as specified.

Also, as an accelerating mechanism for a car, the combination of the slide bar D, the rope I, and the wheel or wheels H arranged and applied to the axles as set forth, the said bar D being connected to the draw bar or tongue of the car, as explained.



**70,529.**—B. W. COLLIER, Oxford, Miss.—*Combined Tool*.—November 5, 1867.—The pliers, clippers, file, burnisher, hammer, punch, wrench, saw-set, screw-driver, scraper, &c, are combined in one tool.

*Claim.*—The instrument above described, having the parts combined and arranged substantially as and for the purposes specified.

**70,530.**—CHARLES W. COMPTON, Newark, N. J.—*Corpse Preserver*.—November 5, 1867.—Explained by the claims and illustration.

*Claim.*—First, forming the bottom or cooling board A in two parts hinged to each other, substantially as herein shown and described and for the purpose set forth.

Second, forming an air chamber or chambers *a'* in the bottom or cooling board A, substantially as herein shown and described and for the purpose set forth.

Third, the ice chamber D extending down upon the sides of the trunk to or nearly to the bottom board A, and extending around the head of the corpse, substantially as herein shown and described and for the purpose set forth.

Fourth, forming the corpse preserver in three parts A B C, substantially as herein shown and described and for the purpose set forth.

Fifth, forming the adjacent ends of the parts B and C inclined or wedge-shaped, substantially as herein shown and described and for the purpose set forth.

Sixth, the combination and arrangement of the body chamber G, ice chamber D, and air chambers *a'* E and F, substantially as herein shown and described and for the purpose set forth.

**70,531.**—H. W. COMSTOCK, Lafayette, Ind.—*Weights for Scales*.—November 5, 1867.—Explained by the claims and illustration.

*Claim.*—The substitution of glass in place of other substances as weights for weighing-scales, thereby producing an anti-corrosive and cheaper weight, as specified.

Also, a filled glass weight when so constructed that the material used as filling shall be entirely surrounded by the glass, as specified and described.

**70,532.**—L. CROUCH, Baraboo, Wis.—*Attaching Wheels to Vehicles*.—November 5, 1867.—The hollow cap-nut retains packing and oil for lubricating the bearings of the wheel.

*Claim.*—The nut E, provided with the screw thread upon its outer circumference and secured to the hub A, by means of screws, in combination with the axle box C, nut F and cap E, substantially as described for the purpose specified.

**70,533.**—EZRA N. CURTICE, Spring Water, N. Y.—*Wagon Brake*.—November 5, 1867.—A rod is hinged to the brake shaft and connected with the draft pole so that when the pole is pushed back by the team the brake shaft turns and presses the rubbers against the wheels. When the pole is drawn forward the brake shaft returns in the opposite direction and releases the rubbers.

*Claim.*—First, the brake shaft F, supported in the boxes *a a* on the wagon reach and hounds, and the straps *c c* on the braces *b b* attached to the axle A', arranged and operating as and for the purpose described.

Second, the eccentric arms *e e* on the ends of the brake shaft F, in combination with the rubbers *d d*, arranged and operating as described.

Third, the combination of the brake shaft F, the rod *g*, and the draft pole E, arranged and operating as and for the purposes described.

**70,534.**—FRANCIS CURTIS, Newton, Mass.—*Manufacture of Suction Boxes for Paper Making*.—November 5, 1867.—The oblong, rectangular box has a foraminous perforated top upon which travels the endless wire-cloth apron carrying the pulp. A vacuum is created within the box to cause a suction upon and through the pulp, extracting the water therefrom.

*Claim.*—The improved manufacture of suction box as composed wholly or in part of hard rubber, substantially in manner and for the purpose as before described.

**70,535.**—ISAAC DAN, Sanford, N. Y.—*Sleigh Knee*.—November 5, 1867.—The knee is sunk in the

sockets of the metallic blocks, which secure the attachment to the runner and bench without the use of tenons. The "T" secures the connection of the knee to the blocks.

*Claim.*—The blocks B and C as constructed and used in combination with the knee and the bar E, as and for the purpose set forth.

**70,536.**—ISAAC DAN, Deposit, N. Y.—*Sleigh Knee*.—November 5, 1867.—To avoid mortising the runner, the expanded metallic, slotted bases are secured to the runner by screw bolts. The tenons of the wooden knees fit into the slots.

*Claim.*—The knee constructed of wood and metal in the manner herein set forth and used with the runner, for the purpose specified.

**70,537.**—ALFRED K. DAVIS, Carey, Ohio.—*Gate Latch*.—November 5, 1867.—By the action of the lever the latch bars of the pivoted vertical frame are turned on their pivots to disengage the gate.

*Claim.*—The pivoted latch bars D D', and connecting bar E, and their respective equivalents, all as set forth in combination with the lever F, operating and arranged in manner substantially as and for the purposes herein shown and described.

**70,538.**—JOHN W. DOUGHTY and HORATIO B. BECKMAN, Newburg, N. Y.—*Feed-water Heater for Steam Generators*.—November 5, 1867.—The vertical tubular vessel connects by a pipe with the steam space of the boiler. Another pipe communicates with the boiler below the water line. The supply pipe has an apron cover to deflect the water in its descent from above, so that none may enter the boiler through the pipe without first having the opportunity to settle.

*Claim.*—The chamber T, with pipe P<sup>1</sup>, in connection with the feed pump, or any other instrument of supply, well W, blow-off pipe P<sup>2</sup>, steam-connecting pipe Q<sup>1</sup>, water-communication pipe E G Q<sup>2</sup>, with the cap F and boiler B, as shown in the drawing, and for the purpose as set forth.

**70,539.**—STEPHEN ELLIOTT, Richmond, Ind.—*Straw Cutter*.—November 5, 1867.—The straw is placed in the box and pushed against the cross piece which acts as a gauge; the cut is effected by the conjoint action of the hand on the knife handle and the foot on the treadle below.

*Claim.*—Constructing a straw cutter, as above described, when the same is composed of the spiral spring K, lever B, cross piece H, uprights F and G, cross piece D, lever E, rod I, and frame A, arranged and operated substantially as above described.

**70,540.**—JAMES J. ESSEX, Newport, R. I.—*Syringe*.—November 5, 1867.—The reservoir has a vertical graduated plate for measuring the amount of liquid injected by the syringe, which is actuated by an elastic bulb. The perforated rose when attached to the nozzle forms a douche for the irrigation of wounds.

*Claim.*—First, the employment or use, in connection with a syringe, of a receiver or reservoir A, provided with a glass or other transparent plate A\*, and with a screw cap *b*, and tube B, substantially as and for the purpose set forth.

Second, the combination of a metallic and an elastic bulb, when the former are attached to opposite ends of the latter, and used either in connection with or without an air chamber, for the purpose specified.

Third, the rose nozzle or douche, composed of the cup *i*, and perforated plate *j*, when used in connection or combined with a syringe provided with an elastic bulb, substantially as and for the purpose specified.

Fourth, providing the male screw of the connections or joints with a socket *g*, to receive the packing and prevent its lateral expansion under pressure, where the two parts of the connection or joint are screwed together.

Fifth, the arrangement of the rigid discharging pipe and the flexible suction tube and their valves at one end of the bulb, substantially as herein shown and described.

**70,541.**—H. C. FAIRCHILD, Brooklyn, Pa.—*Seed Planter*.—November 5, 1867.—The hopper is attached to the handle of the seeder. The adjustable slide



valve regulates the amount of seed that is periodically delivered in the hollow tooth.

*Claim.*—First, the slide D, operated from the outside by the screw *a*, and the arm *c*, substantially as described.

Second, the hole *d* through the cylinder, substantially as and for the purposes herein set forth.

**70,542.**—WM. H. FORKER, Meadville, Pa.—*Paint Brush*.—November 5, 1867.—The conical nut works on the central screw and by its pressure on the staves tightens the bristles.

*Claim.*—The cap E, and the ferrule F, forming the cup E F, in combination with the cylinder D, with the staves J J J J, the conical nut C, and the screw H, when the same are constructed as described in the aforesaid combination, for the purposes set forth.

**70,543.**—GEORGE R. GARDINER, Westerly, R. I., assignor to himself and BENJAMIN W. BENTLEY, same place.—*Condenser for Carding Engine*.—November 5, 1867.—The hollow rollers are two-thirds filled with fire clay, ordinary brick and granite dust mixed with steel dust, to prevent the development of electricity.

*Claim.*—First, the roller C, one or more, made either hollow or solid, and charged or covered with a composition herein described, or its equivalent, and placed on a condenser in relative position with the cylinders B thereof, substantially in the manner as and for the purpose set forth.

Second, the guards G, attached to the guide bars F, on frame D, and arranged in relation with the ropings *a*, substantially as and for the purpose specified.

**70,544.**—A. W. GIFFORD, Worcester, Mass., assignor to WM. A. RICHARDSON and HENRY D. WARD, same place.—*Scissors Sharpener and Cloth Ripper Combined*.—November 5, 1867.—The scissors blade is sharpened by working in the guides of the serrated file, a sliding knife in the handle of which is projected to form a ripper.

*Claim.*—A combined scissors sharpener and ripper, constructed for operation substantially as described.

**70,545.**—NATHAN GODDARD, Boston, Mass.—*Machine for Splitting Whalebone*.—November 5, 1867.—By crowding the whalebone against the knives each roller is raised in succession and the whalebone is split by the knives.

*Claim.*—The arrangement and combination of the series of knives A B C D, and adjustable rollers F, or the same and the adjustable throat piece G, the whole being applied to a frame E, substantially as and for the purpose specified.

**70,546.**—E. A. GOODES, Philadelphia, Pa., assignor to himself, E. L. MILLER, and W. H. MORFORD, same place.—*Measuring and Weighing Cup*.—November 5, 1867.—The article to be weighed is placed in the graduated cup and its weight indicated by the degree of depression of the cup in the water.

*Claim.*—A cup, provided with scales *a b* and *c d*, whereby it may be used for weighing and measuring purposes, in the manner substantially as herein set forth, as a new article of manufacture.

**70,547.**—JOHN GRAHAM, Ludlow, Vt.—*Bevel and Try Square*.—November 5, 1867.—An index, supplemental squares, sliding gauge, and bevel, are combined with the try square for laying out complex joints.

*Claim.*—First, the indicator, composed of a T-shaped bar F connected by a toothed segment *d* and pinion *e*, or their equivalents, with an index *f*, which traverses over a graduated ring *g*, all being arranged and applied to a square, to operate in the manner substantially as and for the purpose set forth.

Second, the combination of one or more supplemental movable or adjustable squares G J with a T or try-square, substantially as shown and described.

Third, the slide I provided with a bevelled or V-shaped notch *o* at one end and a series of slots *p* at the opposite end, when said slide is applied to or used in connection with a T or try-square, substantially as and for the purpose specified.

Fourth, the plate H provided with the ribs *l m* and slot *n*, when said plate is used in combination with a

supplemental square applied to a T or try-square, substantially as and for the purpose set forth.

**70,548.**—ORSON GRAHAM, Lima, N. Y.—*Farm Gate*.—November 25, 1867.—The gate is raised and swings on a hinged collar that is adjusted in accordance to the depth of snow or to let the smaller animals pass under. The small folding gate gives a limited side passage when folded back.

*Claim.*—First, the collar C and collar D, in combination with the gate E and folding part F, when made and used substantially as specified.

Second, the folding part F, when made as specified and used in combination with the gate E, substantially as specified.

**70,549.**—ISAIAH M. GREEN, Sr., Clinton, Ill.—*Fence*.—November 5, 1867.—The uprights of each panel are connected by wooden bars above and below, and the intermediate space is filled at suitable distances with wire, whose looped ends are held by pins. The panels are set up in zig-zag order and keyed together.

*Claim.*—The groove C in the post A and rod D, passing through eyes in the ends of the wires *c c*, in combination with the keys *b* and their seats in the rails B, all arranged and operating substantially as and for the purpose set forth.

**70,550.**—ALBERT J. GREENE, Sterling, Mass.—*Hay Rake*.—November 5, 1867.—The rake is pushed ahead by the hand frame and rotated by the action of the crank lever that connects with the spring.

*Claim.*—First, in a hand hay rake the arrangement of the axle B, teeth C, blocks or hinges D, rod F, and shaft E, with each other, substantially as herein shown and described.

Second, the combination of the spring or springs G with the rod F, axle B, and shafts E, substantially as herein shown and described and for the purpose set forth.

Third, adjusting the tension of the spring G by means of a thumb-screw H, substantially as herein shown and described.

Fourth, in a hand hay rake the arrangement of the arm K and rod L with the axle B and shafts E, substantially as herein shown and described and for the purpose set forth.

**70,551.**—MANFRED M. GRISWOLD, Columbus, Ohio.—*Photographic Process*.—November 5, 1867; antedated November 1, 1867.—Improvement on the patent of V. M. Griswold, April 10, 1866. The surface of the black enamelled plate receives a white, opaque coating of ethers, alcohol, gums, soluble cotton and cyanide of potassium. This is dried and baked to blackness. Is restored by a sensitizing solution to its original whiteness.

*Claim.*—First, the black baked photographic plate, prepared substantially as hereinabove set forth, as a new article of manufacture.

Second, the composition of the enamel or collodion for producing the original white surface, substantially as described.

Third, baking the plate subsequent to the application of the white collodion film, substantially as set forth.

Fourth, restoring the white color to the surface of the plate subsequent to its being baked, as set forth, or in any manner substantially the same.

**70,552.**—HENRY GROSS and GEORGE S. YINGLING, Tiffin, Ohio.—*Annunciator*.—November 5, 1867.—The motion of the levers communicated by the connecting rods and double springs releases the figure drops, and by means of the tumbler with which the hammer shaft is operated the bell is struck.

*Claim.*—First, the self-controlling figure drops B, constructed substantially as described in combination with the upright guides C upon which they slide, as and for the purpose set forth.

Second, the double springs D, constructed substantially as herein shown and described, in combination with the drops B and with the upright guides C, as and for the purpose set forth.

Third, the levers F, constructed substantially in the form and manner herein shown and described, in combination with the connecting rods E and double springs D, for the purpose of releasing the drops B,



and with the tumbler H, by means of which the bell hammer is operated, as and for the purposes set forth.

**70,553.**—JOHN C. GUERRANT and B. J. FIELD, Leaksville, N. C.—*Engraving Machine*.—November 5, 1867.—Improvement on their patent December 12, 1866. As the graver traverses over the plate in a horizontal plane the plate is adjusted on the same axis of rotation so that the proximity of the tool and the plate is maintained. A definite provision is made for advancing and retreating the graver point to and from the plate, as the graver moves vertically.

*Claim.*—First, the holder A adjustable in a horizontal plane upon a center coincident with the axis of rotation of the post which carries the graver shaft, substantially as described.

Second, the arrangement of the extensible rod G G', connecting the tracing arm H with the graver arm D, substantially as described.

Third, the adjustment of the connecting rod G G' at the point of attachment to the tracing arm, so as to vary the degree of penetration of the graver, substantially as described.

Fourth, the rotating graver D in combination with the vibrating and counterpoised graver arm D'.

Fifth, the vibrating slotted guide plate K, constructed and operating substantially as described and represented.

Sixth, the guide rod L planted in the adjustable slide rest M, and affording a guide for operating the cutter on a given vertical line.

**70,554.**—RICHARD GUTHRIE and JOHN SHEARER, New York, N. Y.—*Ornamenting Glass Shades and Globes*.—November 5, 1867.—The sections of ornamental glass fit against and are attached to the upper edge of the globe by hooks.

*Claim.*—The removable sectional glass ornaments or hangings for lamp shades and globes, arranged substantially as and for the purpose herein shown and described.

**70,555.**—ROBERT HALE, Chicago, Ill.—*Head Rest*.—November 5, 1867.—The supporter is suspended from the roof of the car and is secured to a strap around the head.

*Claim.* The head rest, constructed as described, consisting of the cap A, having the neck strap C, the adjustable strap D secured at one end to the visor B, and at the other by a hook E, to the roof of a car, or an equivalent support within the car, as herein described for the purpose specified.

**70,556.**—MATHIAS HAMBERGER, New York, N. Y.—*Reversible Chair Seat*.—November 5, 1867.—The pivoted seat is reversible as it wears, and is secured from rotating by a stop and set screw in the front and back bars of the frame.

*Claim.*—The reversible seat B, when hinged by means of pins *a a* in the chair frame A, and when combined with the stop *b* and pin C, all made and operating substantially as herein shown and described.

**70,557.**—DAVID HARGAR, Des Moines, Iowa.—*Furnace*.—November 5, 1867.—The blast is forced by the fan through the pipe, from which it passes through vent holes within the furnace.

*Claim.*—The combination of the pipe A, having the apertures *a a*, and provided with the sliding cover *d d*, with the furnace C D E, the several parts being constructed, arranged, and operating together substantially in the manner and for the purpose specified.

**70,558.**—BENJAMIN B. HARRIS, Lockport, Ill., assignor to himself, F. G. HARRIS, and SENECA SLY, same place.—*Machine for Stamping and Shaping Leather*.—November 5, 1867.—The die and follower are jointed to form a toggle. The lever operates the toggle joint and brings the follower down upon the knife or die plate, and thereby cuts the leather to the shape of the face of the die.

*Claim.*—First, the combination of the toggle joint and levers, all as set forth, with the follower C, hung from the frame A, having the stage post B hung from it, and playing through a loose mortise, in manner substantially as herein shown and described.

Second, the die or knife plate I, carrying the knife *k*, sliding in the dovetailed groove *g* on stage G,

which is furnished with the hole *m*, and bolted by the dovetailed pin L to the stage G, all as set forth, in combination with the toggle joint, levers, and followers, substantially as herein shown and described.

**70,559.**—F. G. HARRIS, Willsborough, N. Y.—*Composition for Tempering Steel*.—November 5, 1867.—Composed of lard oil, 1 gal.; gum arabic, 2 oz.; rosin, 1 oz.; saltpeter, 2 oz.; salt, 1 oz.; acetic acid, 30 drops. This forms a bath in which to dip the article, after heating as usual.

*Claim.*—The composition formed of the ingredients combined with each other in the proportions herein described and for the purpose set forth.

**70,560.**—JOHN HARRIS, Marquette, Wis., assignor to JOHN S. VINE, same place.—*Car Wheel*.—November 5, 1867.—Improvement on his patent October 24, 1865. Between the flanges on the hub plates of the wheel and the enclosed portion of the web of the wheel are spaces for containing oil and packing for lubrication of the bearings.

*Claim.*—The flanges *c c'* upon the hub B and plate *d*, forming the chambers for the lubricating material upon the sides of the rim D, as herein shown and described for the purpose specified.

**70,561.**—JOHN H. HARTSUFF, New Castle, Pa., assignor to himself, R. W. CUNNINGHAM, and R. C. DUNLAP.—*Curb for Water Wheels*.—November 5, 1867.—The inner annular wheel is made stationary in the fore bay, in horizontal position, and encircles a turbine wheel, being itself encircled by a similar annular wheel. Metallic gates are secured between the rims of the outer annulus, and extend inward between the wedges which separate the rims of the inner annulus. The motion of the outer annulus moves the gates to open or close the water spaces between the wedges.

*Claim.*—The tongues D D, provided with the hinged flaps E E, and used in combination with the wheels A and B, constructed and operating as and for the purpose set forth.

**70,562.**—LORENZO B. HAYES and WILLIAM MORRIS, Greene, N. Y.—*Barn Door and Gate Fastening*.—November 5, 1867.—The vertical bar falls into a slot in the sill, and the upper spring catch engages a staple on the lintel. The bolt is locked by a pin block and collar.

*Claim.*—First, the combination of the vertical bar C, spring catch E, and catch I with each other and with the door or gate A, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the band or collar L and block K, having a pin *k'* attached to its edge, with the bar C, substantially as herein shown and described and for the purpose set forth.

**70,563.**—J. E. HEATH, Niles, Mich.—*Tool for Cutting Bolts*.—November 5, 1867.—The levers and cams operate upon the cutters, which approach each other with their edges moving in the same plane. In cutters worked by two levers they approach each other in the arc of a circle whose center is the pivot of the two levers.

*Claim.*—First, the combination of the plate A, cutters C C, levers D D, and springs *a a*, arranged as described.

Second, the slotted guide plate B, projecting between the cam lever D D, from the plate A, as shown, in combination with the jointed arms E E, cam levers D D, and cutters C C, substantially as and for the purpose set forth.

**70,564.**—JOHN HEDDEN, Elkhart, Ind.—*Photographic Printing Frame*.—November 5, 1867.—The frame has a broad flange at each end to darken special parts when the grouping board is moved to either end. The wooden grouping board rests upon the glass plate and is perforated with a number of holes to suit the different negatives from which prints are to be taken.

*Claim.*—The hinged back, of five pieces, more or less, so constructed that any or more may be fastened together, or an opening be effected at either of the joints, thus admitting the examination of the printing from either end of the frame.

Also, the broad flanges, in connection with the adjustable grouping board, which movable perforated



board, or any other material answering the same purpose, this being equivalent to the movable or sliding frame for carrying the back up or down.

Also, the adjustable and sliding back, the vignetting arrangement for excluding the light from the sensitive paper, by the use of two pieces of board, or other material, with a tube for conducting the rays of light to the negative.

Also, this invention, separately and as a whole, in combination one with the other, substantially as set forth above.

**70,565.**—PHILIP HIGDON, Lewisport, Ky.—*Hoisting Apparatus*.—November 5, 1867.—The hoisting rope is connected to a rack, divided into hinged sections, and sliding in a way of one of the upright timbers. The rack is operated by a pinion, connected by gearing to a shaft journaled at the timber heads, and actuated by an endless rope.

*Claim.*—The combination of the frame  $A A^1 A^2$ , shaft  $B$ , pulleys  $D F J K$ , pinion  $G$ , cords or ropes  $E I$ , rack  $H$ , either jointed or inflexible, and movable sheave  $L$ , all arranged and operating substantially as described.

**70,566.**—C. W. HIGGINS, Waukesha, Wis.—*Children's Carriage and Cradle*.—November 5, 1867.—Rockers are attached to the frame of the wagon so that when the running gears and tongue are detached it can be used as a cradle.

*Claim.*—A children's carriage, when constructed substantially in the manner and for the purposes described.

**70,567.**—F. B. HILL, Cleveland, Ohio, and W. H. McCoy, Des Moines, Iowa.—*Lamp Extinguisher*.—November 5, 1867.—The extinguishing cap is attached to a crank on a shaft passing through the body of the burner, and is moved by turning the portion of the shaft exposed on the outside of the burner.

*Claim.*—The combination of the cap  $C$ , pendent bars  $e$ , rod  $B$ , crank  $d$ , and spring  $f$ , arranged to operate in the manner and for the purpose herein specified.

**70,568.**—NICHOLAS HOPKINS, New York, N. Y.—*Register Point for Printing Presses*.—November 5, 1867.—The hinged leaf of the plate has a metallic point that is thrown up against the sheets to mark them preparatory to folding.

*Claim.*—First, the hinged plate  $B$ , having a metallic point  $C$  attached to its movable part, to be used in connection with a piece of furniture in making up the form, substantially as herein shown and described, and for the purpose set forth.

Second, the combination of one or more rubber or other elastic bearers  $D$  with the movable part  $b^2$  of the hinged plate  $B$ , substantially as herein shown and described, for the purpose set forth.

**70,569.**—KELLIS HORDE, Washington, D. C., assignor to T. H. ALEXANDER, same place.—*Toy*.—November 5, 1867.—By blowing through the mouth piece the alligator is made to protrude its head and open its jaws. By withdrawing the air he retreats into his den.

*Claim.*—The plunger  $B$ , combined with tube  $A$  and lever  $a$ , for operating toys, substantially as described.

**70,570.**—LEONARD D. HOWARD, St. Johnsbury, Vt.—*Bevel*.—November 5, 1867.—The slotted, adjustable bevel-plate is pivoted, and works within the straight edge handle.

*Claim.*—The applying of a blade screw and nut to a bevel, in the manner shown, or in an equivalent way, so that the head of the screw and the nut will be flush with the sides of the handle or stock, as set forth.

Also, the cap  $C$ , applied to the end of the handle or stock, and provided with the concave or countersink  $d$  at one side and the socket  $E$  at the opposite side, to receive, respectively, the screw head and the screw nut, substantially as shown and described.

**70,571.**—SAMUEL W. HUNTINGTON, Augusta, Me.—*Boot-blackening and Polishing Machine*.—November 5, 1867.—The circular brushes are used for blackening and polishing boots, when rotated by the action of the treadle on the crank shaft.

*Claim.*—The combination in a machine, such as described, with one or more rotating brushes, of an adjustable trough or blacking receptacle, substantially in the manner and for the purposes herein shown and set forth.

**70,572.**—GEORGE HURDMAN, Wolverhampton, England, assignor to CHARLES FREDERICK CLARK, same place.—*Sad Iron Heater*.—November 5, 1867.—The top to which the handle and chimney are attached has eye brackets, through which a longitudinal guide rod passes, and on which the top is slid to open the charcoal chamber. The top is retained in working position by a button.

*Claim.*—The improvements in charcoal box or irons, hereinbefore described, illustrated in the accompanying drawing; that is to say, the combination of the rod, pin, or guide  $g$  and eyes or brackets  $f f$  with the body and lid or cover of charcoal box irons, for the purpose of permitting of the sliding of the lid or cover upon the body, substantially as described and illustrated.

Also, the combination with the said parts  $f g$  of the turn or button  $h$ , for fastening the lid or cover, and the knob or handle  $l$ , for holding the iron during the sliding of the lid or cover, substantially as described and illustrated.

**70,573.**—W. W. JACOBS, Hagerstown, Md.—*Vapor Lamp Burner*.—November 5, 1867.—The metallic screw and tube are formed in one piece, and the latter has a dish below the level of the jet holes.

*Claim.*—The combination of tube  $A$ , pan  $D$ , screw cap  $B$ , and wick  $C$ , constructed and arranged substantially as shown and for the purpose set forth.

**70,574.**—LEONARD J. JOHNSON, Montville, Conn., assignor to himself and ERSKINE A. COLES.—*Knife Cleaner and Sharpener*.—November 5, 1867.—The cork cushions are secured inside the hinged box; polishing powder is placed upon them, the surfaces brought together, and the knife reciprocated between them.

*Claim.*—First, the composition of the box  $A$  with the corks  $c c$ , and the handle  $F$ , containing the knife sharpener  $L$ , the cylindrical covered box  $G$ , with the cylindrical cup  $H$ , and polishing apparatus  $I$ , substantially as shown and described and for the purpose specified.

Second, the combination of the cylindrical polishing band  $I$  and cork  $J$  with the box  $A B$ , as shown and described and for the purpose specified.

**70,575.**—GEORGE WILLIAM KELLER, Philadelphia, Pa.—*Dress Elevator*.—November 5, 1867.—The tubular girdle has a series of draw lines connected to the skirt, and these lines are all connected to a single line by which they may be simultaneously adjusted.

*Claim.*—The spiral spring girdle or belt  $A$ , provided with openings  $B$ , in combination with spring  $C$ , cord  $D$ , and strings  $E$ , substantially as herein set forth.

**70,576.**—MICHAEL KNAPP and JOHN KNAPP, Hudson City, N. J.—*Door Lock*.—November 5, 1867.—The main tumbler is locked by an auxiliary tumbler whenever the door is locked, but when unlocked the bolt is free and can be moved directly by the key. The parts are so arranged that the key can only be turned in one direction both for locking and unlocking. By the application of the auxiliary tumbler the bolt is held firm when locked, so that it cannot be moved back by pressing from the outside.

*Claim.*—First, guiding the secondary tumbler  $D$  through the slotted guides  $d$  and through the grooved tumblers  $b b$ , said secondary tumbler provided with the projections  $g$ , as described, and connected with the spring  $h$ , operating as and for the purpose specified.

Second, the combination and arrangement of the bolt  $B$ , tumblers  $b b$ , secondary tumblers  $D$ , guides  $d$ , and springs  $a c h$ , all operating as described for the purpose specified.

Third, so constructing a lock that the same can only be locked and unlocked by turning the key in one direction only, as set forth.

**70,577.**—JOHN K. KRIEG, New York, N. Y.—*Pegging Jack*.—November 5, 1867; antedated Octo-



ber 27, 1867.—The last-holding pin, instead of being fixed in the standard, is placed in an axial socket thereof and held by a set screw, so as to allow the use of a fresh portion on breakage.

*Claim.*—The construction of the hollow last holder, in combination with the pin rod inserted therein and adjustable, for the purposes and as specified.

**70,578.**—S. A. KRONER, New Britain, Pa.—*Cultivator.*—November 5, 1867.—The sections of the movable frame are attached by bolts and metallic plates. The draft is regulated by the points of attachment of the frame on the beam. The handles are pivoted in the middle so as to rotate and work from either end. The long clevis is attached to the hook on the pivot bolt of the handles.

*Claim.*—First, the trestle H, in combination with the handles B and beam A, for the purpose of shifting the handles, in the manner and for the purpose specified.

Second, the movable sides C and C', in combination with the plates D and F, the slide E, and pin G, in the manner and for the purpose set forth.

Third, the arrangement of the shares K, in combination with the movable sides C and C', plates F and D, slide E, trestle H, and clevis I, in the manner and for the purpose set forth.

**70,579.**—HENRY KURTH, Brooklyn, N. Y.—*Umbrella Runner.*—November 5, 1867.—The slotted runner fits over and around one of the stationary pins in the stick when the umbrella is being opened or closed, and has a sleeve which can be turned so as to lock it over or under one of the pins when desired.

*Claim.*—An umbrella runner provided with the locking device consisting of the supporting piece *f*, locking ring *e*, in combination with pins C and *d* in the handle, substantially as described.

**70,580.**—A. LAKE, Smith's Landing, N. J.—*Cleat Chock.*—November 5, 1867.—The chock has down-curved lips for engagement of the stanchion, and up-turned lips to engage the cleat.

*Claim.*—A cleat chock made and employed substantially as herein shown and described.

**70,581.**—WILLIAM R. LANDFEAR, Hartford, Conn., assignor by mesne assignments to DAVID WHITEMORE.—*Machine for Pegging Boots and Shoes.*—November 5, 1867.—Improvement on his patent of September 13, 1864, which belongs to that class of pegging machines in which the shoe is held upon a jack and pressed up against a feeding device which moves it under the awl and driver at the proper speed for the sole to be perforated and pegged. The improvements refer to the mode of feeding the peg wood to the driver; a device for holding it during its passage through the machine; a brake to control the movements of the feeding sleeve; and a device for guiding the awl and driver.

*Claim.*—First, passing the pegs severed from the peg wood from the severing knife to the driving bar, through a slot in the axle of the feeding sleeve, substantially in the manner and for the purpose described.

Second, the combination of the bar A', bolt B', and set screw C', arranged, substantially as specified, for securely holding down the peg wood during its passage through the machine, as set forth.

Third, the application of an adjustable brake to control the movement of the feeding sleeve, in the manner described.

Fourth, the face-plates F' and C', arranged as described and forming grooves for the passage of the awl and driver in front of the feed sleeve, as specified.

**70,582.**—NATHAN LAWRENCE, Taunton, Mass., assignor to REED & BARTON, same place.—*Construction of Ice Pitchers.*—November 5, 1867.—The bottom of the inner case is strengthened by radial ribs soldered fast to its under side.

*Claim.*—First, an ice or double-walled pitcher having its inner wall or lining spun or swaged out of one piece of metal, or swaged out of a single piece, so that the bottom will be seamless, or without a joint, substantially as described.

Second, the securing of the ribs *b* to the bottom *a* of the inner wall or lining, substantially as and for the purpose specified.

**70,583.**—FREDERICK LEADBETTER, Plymouth, Mich.—*Bed Bottom.*—November 5, 1867.—The slats are connected to the head and foot rails by metallic eyes engaged by hooks on the wires. The wires are attached to plates sliding on the V-shaped wires secured to the rails, and rest against spiral springs upon the said wires.

*Claim.*—Connecting the slats B to the ends of the bedstead by means of the wires C connected to the ends of the slats, as shown, and attached at their outer ends to bars D, which are fitted loosely on V-shaped wires E, driven in the ends of the bedstead and having spiral springs *f* upon them, as herein set forth.

**70,584.**—N. H. LINDLEY, Bridgeport, Conn.—*Propagating Tank and Bed.*—November 5, 1867.—The water circulates beneath the bed, and in its passage thereto traverses a channel communicating with the air space of the hothouse. Valves are so arranged that more or less hot water will traverse the air-heating channel in proportion to that passing beneath the bed, so as to regulate the heat in any portion.

*Claim.*—The valves E E', as described, and their adjustability in combination with the hot-water channels C D, propagating bed *a*, hot-air space *a*\*, and deflector *c*, substantially as described for the purposes specified.

**70,585.**—STEPHEN W. LONG, Louisville, Ky.—*Brick Machine.*—November 5, 1867.—A sufficient quantity of the clay is cut-off by a vertical plunger at the mouth of the pugmill and falls into a chute, from which it is ejected by the upper horizontal plunger into the mold box, within which it is pressed. The plunger is then retracted and the molds descend into line with the lower horizontal plunger, by which the bricks are ejected onto the off-bearing belt.

*Claim.*—First, the arrangement in a brick machine of two plungers I K, so as to form a measure, and to exert upon the clay compressive forces in directions perpendicular to each other, substantially as described.

Second, the combination of the plungers I K K', sliding molds J J' J', chambers *c o' o''*, and pug mill G D, all arranged and operating substantially as and for the purpose herein specified.

**70,586.**—R. M. MANSUR, Augusta, Me.—*Ice Tongs.*—November 5, 1867.—The tongs consist of a single steel bar turned into a spiral spring at its mid-length, and having ratchet claws to hold the ice.

*Claim.*—The ice tongs or hook provided with the elastic arms A, and the angular, sharpened, or pointed prongs or teeth C, constructed and operating in the manner and for the purpose set forth.

**70,587.**—KNUD MARKUSON, Gloucester, Mass., assignor to himself and LEONARD A. BURNHAM, same place.—*Handle for Ships' Pumps.*—November 5, 1867.—The handle has a hinge on each side, whose pintle is extractible to allow the outer part of the handle to fold around either way to the other part. The handle is connected to the pitman by a hooked rod, which is prevented from rotation when the handle is extended, but admits of turning and release of the pitman when the handle is folded.

*Claim.*—The improved pump handle, as made in two parts A B, connected together by two hinges, or by a hinge and latching or locking devices, applied to their opposite sides, the whole being substantially as specified.

Also, the arrangement and combination of the rotary rod, made as described, and the socket for the head of such rod, with the two handle parts A B, connected substantially as explained.

**70,588.**—WILLIAM MARR, New York, N. Y.—*Manufacture and Application of Bisulphite of Lime.*—November 5, 1867.—Carbonate of lime is saturated with distilled sulphurous acid gas, forming a bisulphite.

*Claim.*—First, the new article of manufacture, liquid bisulphite of lime, prepared substantially as herein described.

Second, the improved mode of arresting fermentation in beer, ale, and other fermented liquors, by the application of liquid bisulphite of lime, substantially as herein described.



Third, the application of liquid bisulphite of lime for preventing fermentation in saccharine and other fermentable liquids.

Fourth, the application of liquid bisulphite of lime for preserving meat and fish, substantially as described.

**70,589.**—GODFREY MARSHALL, Indiana, Pa.—*Harness Saddle.*—November 5, 1867.—The top frame is made in one piece, with a lip around its lower edges to contain the cushion, to which are attached the nuts in proper position to receive the screw shanks of the terrets, cheek hook and screw bolts, which hold the pad in position.

*Claim.*—A harness saddle constructed with its cushion or pad substantially as and for the purpose described.

**70,590.**—EMORY MCCLINTOCK, New Brunswick, N. J.—*Steam Engine.*—November 5, 1867.—The relation of the passages of the piston and the valve ports of the cylinder is such that when the piston moves in one direction from the central position and until it returns to the same position there is communication for the passage of steam between the steam ports and the ports communicating with the upper chamber of the first cylinder, and also between the ports communicating with the lower chamber of the other cylinder and the exhaust ports. The piston is thus caused to make a complete stroke, and when the piston moves in the other direction from the central position, and until it returns, communications the reverse of the above are established so as to cause the return stroke of the other piston.

*Claim.*—The combination of the valve ports S S' E E' U U' L L', in the cylinders C C' and the passages a b c d and a' b' c' d', in the double-acting pistons P P' said pistons serving as four-way valves, all substantially as herein described for the purposes specified.

**70,591.**—WILLIAM MCMILLEN, Milan, Ohio, assignor to himself and Z. KING, Cleveland, Ohio.—*Lifting Jack.*—November 5, 1867.—The upper ends of the legs are connected by a lever, by whose depression they are erected and the wagon axle raised.

*Claim.*—The arrangement of the legs A A', in combination with the lever C, and link B, when pivoted or jointed in the manner substantially as described.

**70,592.**—RUFUS N. MERIAM, Worcester, Mass.—*Planing Machine.*—November 5, 1867.—The journal frames of the matching-cutter shafts have racks by which they may be simultaneously vertically adjusted by two spur wheels on a common shaft.

*Claim.*—The slides F F\*, carrying the shafts C C\*, and constructed with racks d d\*, in combination with the blocks B B\*, formed with standards E E\* and the pinions e e\*, whereby the said shafts may be raised or lowered with reference to the bed a, constructed and operating substantially as herein set forth.

**70,593.**—F. R. MILLER and E. PRESCOTT, Pittsburg, Pa.—*Sash Support and Fastener.*—November 5, 1867.—Explained by the claim and illustration.

*Claim.*—The upper cam d', in combination with the lower cam d, so constructed, arranged, and connected, substantially as described, as to press against the rail or frame of the window in opposite directions by means of the weight of the upper cam and thus lock and support the sash in any position in which it may be placed, while the depressing of the lower cam shall also raise the upper cam, and thus leave the sash free to be raised or lowered.

**70,594.**—J. MILLER, Jr., Baltimore, Md.—*Mode of Securing Wheels on Axles.*—November 5, 1867.—The linch-pin passes through open ended slots in the central annulus of the box, and is prevented from end movement by the flanges on the circular plate, which is pressed outward by the spring in the recess of the box.

*Claim.*—The combination of the box A, spring B, plate C, and the linch-pin D, or their equivalents, operating in the manner described and for the purposes substantially as set forth.

**70,595.**—ROBERT MITCHELL, Wolverhampton, England.—*Cylinder of Steam Hammers.*—November

5, 1867.—The converging dies, in combination with the molding jaws, embrace the article operated on. The molding jaws are operated by a system of toggle joint levers that are actuated by the vertical cylinder. The steam is cushioned above the piston to give elasticity to its reactionary motion and to guard the cover of the cylinder.

*Claim.*—The peculiar arrangement of steam ports and ways in the cylinders of double acting steam hammers and forging machines, substantially as and for the purpose hereinbefore described, and illustrated by Fig. 5 of drawing.

**70,596.**—JOHN H. MOORE, Binghamton, N. Y.—*Apparatus for Moving Buildings.*—November 5, 1867.—The trucks are connected by a reach so arranged that the direction of the trucks may be changed 90° and retained by racks on the trucks and catches on the lower side of the reach.

*Claim.*—The hinged latch G and the catch H, in combination with the reach or sand board C and bolster F, all constructed and arranged substantially as and for the purposes set forth.

**70,597.**—ANTONIA L. MORA, New York, N. Y.—*Hinge.*—November 5, 1867.—One leaf of the hinge is connected to the other by a curved ratchet, whose slot is traversed by a screw. The ratchet is engaged by a spring pawl to hold the hinge to any degree of openness.

*Claim.*—First, the pawl D and the spring E, constructed, arranged, and operating substantially as and for the purposes described, in combination with a ratchet hinge.

Second, the pin f, by which the pawl is tripped, substantially as described, in combination with the pawl D.

Third, in combination with the pawl D, the ratchet C and the stop plate F, substantially as described.

Fourth, in combination with a hinge, the plates A and B, substantially as and for the purposes described.

**70,598.**—JOHN F. MORGAN, Boston, Mass., assignor to CORNELIUS S. HURLBUT, Springfield, Mass.—*Lunch Box.*—November 5, 1867.—Explained by the claim.

*Claim.*—A lunch or dinner box as an article of manufacture, the end plates and side plates of which are joined to each other and to the bottom plate of the box by hinges, and the end plates of which are made of two parts or pieces connected by hinges, which traverse the end plates diagonally, and one side plate of which is made of three parts or pieces connected together by hinges, so that the box can be folded flat without detaching any part of it, beside the top or cover, from the other parts, substantially as herein set forth.

**70,599.**—JOHN H. MORSE, Peoria, Ill.—*Permutation Lock for Doors, &c.*—November 5, 1867; antedated October 30, 1867.—The spring click is attached to the tumbler disk, and engages any one of a series of notches on the periphery of the hub disk. To change the combination the click is raised by a thumb pin, and the hub turned. The lug of the drop bar, where impinging on the tumbler disk, has a pad of rubber to obscure the sound and feeling in attempts to pick the lock.

*Claim.*—First, the push pin S, with its spiral spring s, acting on click K, in combination with the hub plate D, with its notches d.

Second, the rubber pad o, or its equivalent, on lug J.

Third, the bolt R, with its slot H and lug G on lug bar E, all working in the manner and for the purpose specified.

**70,600.**—CHARLES P. MOYER, Womelsdorf, Pa.—*Instrument for Administering Balls to Horses.*—November 5, 1867.—The india-rubber end is drawn into cup form by the sliding rod for the reception of the ball, and is thrust forward for ejection of the ball into the horse's throat.

*Claim.*—First, the india-rubber or pliable cup E, the cup A, and the plunger D, used substantially as and for the purpose set forth.

Second, the shield C, in combination with the tube B and plunger D, when used as and for the purpose specified.



**70,601.**—E. B. OLMSTEAD, Washington, D. C.—*Machine for Making Paper Bags.*—November 5, 1867.—The machine is fed from a roll of paper. It is adjusted to cut the paper into pieces of the required size and shape for bags or envelopes, which it then gums, folds, points, presses, and delivers for use.

*Claim.*—First, the combination of the feed and printing roller *F* with the inking roller *I*, the cutting roller *F'*, and the gumming roller *G*, substantially as and for the purpose described.

Second, the combination of the cutting edge *h* and knife *k*, when used in an apparatus for making paper bags or envelopes, and when the parts are constructed, combined, and operating in the manner and for the purpose herein specified.

Third, the combination of the two folding devices *M* and *K*, substantially as and for the purpose shown.

Fourth, the combination of the roller *N'* and leaves *n n'*, when constructed and operating in the manner and for the purpose set forth.

**70,602.**—BIRD PAINE, McMinnville, Tenn.—*Medical Compound.*—November 5, 1867.—Tonic remedy for fever: Sulphate of quinine, 1 ounce; extr. licorice, 6 drachms; gum myrrh, 2 drachms; ipecacuanha, 80 grains; oil of sassafras, 20 drops. Mix and divide into 480 pills.

*Claim.*—The combination of pulverized ipecacuanha with the other remedies, as described above, whereby the well-known deleterious effects of quinine in large doses are prevented, and the aggregate healing properties of the combination greatly enhanced.

**70,603.**—THOMAS N. PAINE and SAMUEL STEPHENS, Grace Valley, Cal.—*Ore Separator and Concentrator.*—November 5, 1867.—A ledge is made around the flange of the pan, on which is placed a copper amalgamated plate, with a circular rim resting on the top of the flange that forms a recess on which the ore is first received from the rotating distributing spouts. The spouts lead from a reservoir that is placed around and revolves with a vertical shaft. The reservoir is fed by a trough, into the upper end of which the tailings are introduced with sufficient water to make a thin pulp. A set of light rotating brushes agitate the surface of the pulp, rising as the pan fills, so as to remain on the surface, while a central ring fitting the bottom of the pan also rises slowly, thus preventing the discharge of any but the lighter particles of the pulp.

*Claim.*—First, the pan constructed with the copper-lined recess *h* at its top to save the gold or amalgam, substantially as herein described.

Second, the adjustable distributing spouts constructed with the parts *d e* and *f* and having the adjusting screw *g*, the whole operating substantially as and for the purpose herein described.

Third, the round arms *E* with the separated brushes *r r r r*, for agitating the surface of the pulp, operating substantially as herein described.

Fourth, the ring rising automatically and the rod *b*, together with the endless screw *L* and the cone pulleys *K* and *K'*, when used for raising the ring *H*, substantially as herein described.

Fifth, the movable feed trough *G* and the reservoir *M*, supported by the rollers *k k* and the plate *l*, operating substantially as and for the purpose described.

Sixth, the revolving belt *n* with its brushes and the perforated plate *p*, when used in the feed trough *G*, substantially as herein described.

Seventh, the two-part shaft, constructed with a hollow stationary slotted shaft *C* and the hollow movable slotted shaft *D*, when constructed with the balls and the grooves in their ends to prevent friction, operating substantially as and for the purpose herein described.

**70,604.**—JOSEPH R. PAYSON, Chicago, Ill.—*Window-Sash Supporter.*—November 5, 1867.—The inclined end of the lug being pressed down the incline at its rear by a spiral spring above, clamps the friction plate against the sash.

*Claim.*—The friction plate *A* with its projection *B*, in combination with the inclined surface *a* and the spring *E*, all arranged as shown, or in an equivalent way, for the purpose specified.

**70,605.**—EDWARD PERRY, Hopkinton, Mass.—*Wrench.*—November 5, 1867.—The brace end has a

device similar to a monkey wrench. The jaws are brought together onto a tool by a right and left hand screw bolt with a rosette as a means of turning.

*Claim.*—The combination with the frame or stock *A* of the movable jaws *E E*, screws *D D*, and rosette *C*, substantially as and for the purposes set forth.

**70,606.**—FRANCIS PIDJEON, Saugerties, N. Y.—*Rail-Clamp Joint.*—November 5, 1867.—The clamp being dovetailed, dispenses with bolts, and thereby allows free scope for the contraction and expansion of the rail.

*Claim.*—First, the combination of the dovetailed rails *E* and dovetailed clamps *G H*, substantially as described, for the purpose specified.

Second, in combination with the above, the outer section of the clamp flush with the head of the rail, substantially as described, for the purpose specified.

**70,607.**—ZENAS PLUMB, De Witt, Iowa, assignor to himself and JOHN C. POLLEY, same place.—*Wagon Reach.*—November 5, 1867.—The forked end of the reach is secured to the other section by a swivel joint.

*Claim.*—Constructing a wagon reach in two parts, connected by a swivel joint, substantially as and for the purpose described.

**70,608.**—HENRY E. POND, Franklin, Mass.—*Fertilizer.*—November 5, 1867.—To 2,000 pounds of meadow muck, partially dried, add 20 pounds sulphuric acid; mix, stir, and add 150 pounds sulphate of lime; nitrate of potash, 50 pounds; salt, 80 pounds; nitrate of soda, 100 pounds. After an interval add superphosphate of lime, 100 pounds. Dry and barrel.

*Claim.*—The new fertilizer, substantially as before described.

**70,609.**—BENJAMIN F. PORTER, Manchester, N. H., assignor to himself and TIMOTHY S. MITCHELL, same place.—*Combined Door Fastener and Pocket Knife.*—November 5, 1867.—In the end opposite to the blades is a hook whose shank is pivoted in the handle. When the hook is half opened on its pivot and introduced into the crank of the door, the pivot engages the door casing and the handle is square across the track of the door, like a button, and prevents its opening.

*Claim.*—The door fastener *B*, constructed and arranged to operate as described, in combination with a pocket knife.

**70,610.**—W. D. PORTER, Petersburg, Va., assignor to himself and JAMES H. PLATT, Jr., same place.—*Toy Humming Wheel.*—November 5, 1867.—The concave disks are attached at their peripheral edges, which are perforated so as to produce a humming sound when the disks are rotated by the action of the alternating cords that are attached by loops to the faces of the disks.

*Claim.*—The toy wheel *E* formed by the union of two concave disks, united at their peripheries and provided with one or more openings *D* and the loops *A*, when said parts are constructed and arranged as herein shown and described.

**70,611.**—THEODORE PURSE and HENRY C. DRAPER, Ashley, Mo.—*Sack Fastener.*—November 5, 1867.—The straight and bent pieces of wire are hinged on a stud, and the latter piece is bent around into a hook to take over the former. A portion of each piece is bent around into a circular eye for convenience of handling.

*Claim.*—The sack fastener, consisting of the two pieces of wire *A B*, hinged or pivoted at *C*, when bent and arranged to operate substantially as described.

**70,612.**—JOSEPH RIDER, Newark, Ohio, assignor to himself and E. REMINGTON & SONS, Ilion, N. Y.—*Priming Metallic Cartridges.*—November 5, 1867.—Explained by the claims and illustration.

*Claim.*—First, a shell without an endpiece and a flange turned and projecting forward on its inside, substantially as and for the purpose described.

Second, in combination with a shell having an inward flange, a base *B* having a recess for a cap, and holes extending from said recess to the charge in the



cartridge, and removable and replaceable, substantially as and for the purpose described.

**70,613.**—GEORGE W. PUTNAM, Peterboro, N. Y.—*Dredging, Spice, and Pepper Box.*—November 5, 1867.—Perforations are made in the side instead of in the top, to obviate the necessity of tipping it so far.

*Claim.*—A dredging or spice box, perforated upon its sides, substantially as herein shown and described.

**70,614.**—AMOS RANK, Salem, Ohio.—*Harvester.*—November 5, 1867.—The grain is deposited on the stubble by the tilting frame, and formed into a gavel, and removed from the track by the scraper, which is attached to the divider.

*Claim.*—First, the side delivery scraper, hinged to the outer divider, or its equivalent, so as to allow it to conform to the undulations of the ground, in combination with a grain platform or receiver, which is arranged behind the cutting apparatus of a harvester, and applied so as not to revolve, substantially as described.

Second, a slatted tilting or hinged platform D, arranged behind the finger beam of a harvester, in combination with a scraper G, which operates as shown, for the purpose set forth.

**70,615.**—JOHN H. RANKIN, Versailles, Mo.—*Sulky Plow.*—November 5, 1867.—The plow frame or the plows singly are vertically adjustable, and the plows are adjustable in their inclination to the ground to assist in hilling, and in avoidance of obstacles.

*Claim.*—First, the cultivators C, constructed as above described and for the purpose set forth.

Second, the cultivators C, screw *l*, nut *l'*, cords *e*, drums *f*, on axle *g* and handle *h*, in combination with the frame A, all arranged as above described, and for the purpose set forth.

Third, the plows D, constructed as above described and for the purpose specified.

Fourth, the cultivators C, plows D, adjusting bars *b*, rail *d*, screws *l*, nuts *l'*, cords *e*, drums *f* on axle *g*, and handle *h*, in combination with the frame A, as above described and for the purpose set forth.

**70,616.**—M. J. RHEES, Mount Holly, N. J.—*Pessary.*—November 5, 1867.—The concave perforated disk forms a support for the parts affected, while the lower loop affords a means for its introduction and withdrawal, as also a support for it while in place.

*Claim.*—A pessary, made substantially as described.

**70,617.**—JOHN W. RICKER, Chelsea, Mass.—*Well Tube.*—November 5, 1867.—The thimbles project inward, and are cleared from sand by injection of water through a pipe, whose lower horizontal end embraces the thimbles, one at a time.

*Claim.*—A series of perforated conical shaped thimbles *a*, applied to a well tube, constructed and operated substantially as and for the purpose described.

Also, a well tube, provided with a series of perforated conical shaped thimbles *a*, from which the sand is ejected by the employment of tubes C D, substantially in the manner set forth.

**70,618.**—ROBERT ROBERTS, St. Paul, Ind.—*Bedstead.*—November 5, 1867.—The longitudinal spring supports are sustained by angle pieces attached to the head and foot rails. The springs support transverse slats kept from longitudinal vibration by web strips. A section of the frame at the head is jointed to the remainder, and is adjusted to the desired inclination by a pawl and rack.

*Claim.*—First, in combination with the bedstead A, supports B and cleats F, the frame C, springs D, slats E, and webbing I, arranged substantially as and for the purpose set forth.

Second, the head piece G, when attached by hinges to the inner and detached frame C, substantially in the manner set forth.

Third, the combination of the slats E, springs D, webbing I and hinged head piece G, arranged substantially as set forth.

**70,619.**—R. N. ROCKWELL, Glenwood, Iowa.—*Wagon Seat.*—November 5, 1867.—The seat board has pendent guide pins that traverse holes in a board which is laid transversely on the wagon box. The

guide pins rest upon springs attached to the under side of the latter board.

*Claim.*—The board or plank A with the springs B B' attached, in combination with the pendent pins E, attached to the bottom of the seat C, all arranged substantially in the manner as and for the purpose set forth.

**70,620.**—EPHRAIM ROMANS, La Porte, Ind.—*Bag Fastener.*—November 5, 1867.—A pinching plate is hinged to the larger end of an ovoid ring. The bag string is secured to the waist of the plate and brought through the notch at its end, where it is pinched between the plate and ring.

*Claim.*—The combination of the frame *a*, plate *b* and cord *f*, substantially as and for the purpose described.

**70,621.**—E. ROSEEN, New York, N. Y.—*Conformator.*—November 5, 1867.—Extensible curved and straight outline pieces are connected by extensible braces, so as to be used for patterns of different sizes.

*Claim.*—First, the bar *n*, constructed with joints 5, and hinges 6, so that its curvature can be preserved when the apparatus is flattened out, substantially as described.

Second, the adjustable bars *v v*, in combination with the curved bars *m* and *w*, substantially as described.

Third, the combination and arrangement of the bar *j*, provided with a hook at its end, the bars *s* and *o* and set screw 3, connecting the bars *s* and *t*, substantially as described.

**70,622.**—JONAS H. ROWE, Hudson, N. Y.—*Spinning Wheel.*—November 5, 1867.—The spindle is mounted on the free end of an arm, which is oscillated by a treadle to draw out the rolls. The spindle is actuated by a cord, which passes around sheaves on the arm axis. The arm oscillates in the plane of the main wheel.

*Claim.*—First, the arrangement of the vibrating arm F, carrying the adjustable spindle head G, said arm supported from the adjustable bar E and resting upon the spring *e*, with the adjustable bar D and connecting rod L, pivoted in said arm F, as herein described for the purpose specified.

Second, the combination of the bent spring *e* with the vibrating arm F, adjustable rod C, and connecting rod L, as herein described for the purpose specified.

**70,623.**—RANSOM SARGENT, Norwich, Vt.—*Rotary Cam for Looms.*—November 5, 1867.—The central revolving shaft carries planetary shafts whose circular disks act as cams upon the projections on the treadles. The disks are adjustable longitudinally on their shafts so as to cause them to operate upon such treadles at such times as will secure the required pattern.

*Claim.*—The rotary loom cam formed of a center shaft *a*, provided with heads *b'*, on the periphery of which are hung the truck shafts *c* in the adjustable boxes *d*, for carrying the adjustable circular cams or trucks E to operate on the cam blocks D, placed on the treadles C, constructed arranged and operating substantially as and for the purposes herein described.

**70,624.**—JEREMIAH SCHROY, Fort Ville, Ind.—*Animal Trap.*—November 5, 1867.—The pivoted gate has an extension shoe that rests on the floor of the trap; the rat stands on it while fruitlessly endeavoring to open the gate.

*Claim.*—The drop *o* in the removable chamber C, when such drop is provided with the fixed shoe or prolongation *r*, arranged as described, whereby the weight of the animal upon said shoe prevents its being raised, as herein set forth.

**70,625.**—LEWIS O. SCHULTZ, Mattoon, Ill.—*Car Coupling.*—November 5, 1867.—The link strikes against and slides over the guide pin; entering the draw-head it strikes the coupling pin and the guide. It oscillates the pivoted pin, which drops into the link and completes the engagement.

*Claim.*—The catch F, the coupling pin C, the guides D and E, and the lifting rod *d*, constructed and arranged substantially as described, in combina-



tion with the draw head of a railroad ear, for the purpose set forth.

**70,626.**—L. M. SCOTHORN, Findley, Ohio.—*Gate*.—November 5, 1867.—The gate slides within itself telescopically, and within the slotted post by which it is supported.

*Claim.*—First, the double post B, constructed as and for the purposes substantially as above set forth and described.

Second, the upright, movable post C, working in a groove in the post B, and provided with the roller *c*, substantially as above set forth and described.

Third, the main and extension gates, consisting of vertical and horizontal bars D *d* F G H and H', or their respective equivalents, and provided with rollers D' D' g' g', in manner and for the purposes substantially as above set forth and described.

**70,627.**—E. W. SCOTT, Wauregan, Conn.—*Whip Socket*.—November 7, 1867.—The pivoted stop retains the whip within the holder.

*Claim.*—A whip socket provided with a fastening composed of a lever arranged or applied substantially as shown and described, to hold the whip steady or firm in its socket, as set forth.

**70,628.**—ANSON SEARLS, San Francisco, Cal.—*Adjustable Prop Joint for Carriages*.—November 5, 1867.—The arms are extensible by screwing into and out of the sockets, which unite at a pivoted joint which has projections and counterpart recesses.

*Claim.*—First, an adjustable or extension prop joint.

Second, a socket, pivoted, or center joint, all substantially as described, and for the purposes set forth.

**70,629.**—ISAAC B. SEELEY, Philadelphia, Pa.—*Truss*.—November 5, 1867.—The two rear pads are pivoted to the ends of the spring bands that encircle the hips, and that coming forward are pivoted to the abdominal supporter. The pads, straps and supporters are all made of vulcanized india-rubber.

*Claim.*—A supporter made of hard, vulcanized india-rubber, substantially as and for the purpose described.

**70,630.**—G. C. SELFRIDGE, Saratoga Springs, N. Y.—*Washing Machine*.—November 5, 1867.—The oscillating alternating shafts with their graduated rubber blocks, work the clothes against the corrugated washboard.

*Claim.*—The combination of the slotted cover C, hinged lids D D', sectional washboard E, double oscillating plungers I, arms H, rock-shaft G, removable connecting rods K, working above the lid of the suds box, pins *b*, crank shaft J, as herein described for the purpose specified.

**70,631.**—A. B. SHAW, Holderness, N. H.—*Folding Umbrella*.—November 5, 1867.—Each rib is formed of two pieces, with a splice, and is braced from two runners, which occupy different places on the staff. The staff is pointed and the ribs retractile, so as to fold up and shorten, and the ferrule is detachable for the same purpose.

*Claim.*—The combination of the auxiliary runner F, and its series of spreaders G, with the staff, the main runner D, and its series of spreaders E, and each of the ribs, formed in two parts *c*, *d*, and applied together, substantially as described.

Also, the connection of the ferrule to the staff by means of the spring, arranged within and applied to such ferrule and staff, substantially as set forth.

Also, the connection of the ferrule to the staff by means of the screws and the spring applied to them, substantially as specified.

**70,632.**—A. B. SHAW, Holderness, N. H.—*Folding Umbrellas*.—November 5, 1867.—The ribs are contractible, and the stem admits of folding, to increase the compactness of the article for carriage or stowage.

*Claim.*—The combination of the rib-locking mechanism with the braces and with the ribs, each made in two parts *e* *f*, and applied together, so as to enable the lower ones *e* to be moved with respect to the upper ones *f*, substantially in manner as specified.

Also, the rib-locking mechanism, composed of the

slide rod *o*, the collar *n*, the series of locking rods *l*, the staples *k*, and the arms *i*, the whole being constructed and arranged together as explained and represented.

Also, the combination of the spring *r* with the stick, and the locking apparatus applied to the ribs, and arranged to operate substantially as described.

**70,633.**—PALMER SHAW and EDWARD S. DAWSON, Syracuse, N. Y.—*Harness Pad Tree*.—November 5, 1867.—The elastic plate, securing the joint between the cut-off end and the pad, allows free action to the point of the pad.

*Claim.*—The elastic plate *e* covering the joint between the cut-off end *a* and the pad A, and connecting the two parts, substantially as described for the purpose specified.

**70,634.**—GEORGE SHIELD, Cincinnati, Ohio.—*Pump*.—November 5, 1867.—The water is admitted through a valve into the pump barrel when the co-working plungers descend. The water passes up through the open plunger, and, raising the valve, enters the branch and is forced by the closed plunger through a valve into the air chamber, from which it is discharged through the pipe.

*Claim.*—First, the combination and arrangement of the hollow plunger C, valve rod D, valve *d*, solid or closed plunger E, plate *e*, and stuffing-boxes *a* *a*, as herein described, for the purpose specified.

Second, the solid or closed plunger E, in combination with the hollow plunger C, valve *d*, and discharge passage A', as herein described, for the purpose specified.

Third, the double-plunger pump, constructed as described, consisting of the barrel A B, with branches A' B', stuffing-boxes *a* *a*, hollow plunger C, solid or closed plunger E, valve *d*, plate *e*, chamber F, and pipes G *g*, as herein described, for the purpose specified.

**70,635.**—JOHN B. SLAWSON, New Orleans, La.—*Lamp*.—November 5, 1867.—The burner is placed near one corner of the box, so as to avoid the difficulty of the light protruding between the driver and the money. The reflector throws light toward the passengers in the car and toward the money in the box.

*Claim.*—First, arranging the burner B at or near the end of the reservoir A, substantially as and for the purpose herein shown and described.

Second, arranging a reflector C at or near the corner of the reservoir, the said reflector being made substantially as herein shown and described.

Third, a lamp A, when provided with a burner B, which is arranged at or near to its end, so that it will be at or near one corner of the fare box, in combination with the reflector C, which is made and arranged substantially as and for the purpose herein shown and described.

**70,636.**—A. W. SMITH, Pierrepont, N. Y.—*Apparatus for Cleansing Stove Pipes*.—November 5, 1867.—The semicircular plate is attached to the handle, and is braced by a wire hook that passes between the scraper plate and the handle.

*Claim.*—The scraper, formed by the combination of the semicircular plate D, handle E, brace and guard wires F, and spring H, with each other, substantially as herein shown and described, and for the purpose set forth.

**70,637.**—E. C. SMITH, Old Ripley, Ill., assignor to himself and A. G. SOMMERFELDT, same place.—*Paddle Wheel*.—November 5, 1867.—Fixed eccentrics are attached upon the frame, which have loose revolving collars around them. The eccentrics are connected with the paddles by jointed arms, in such a manner that the paddles maintain a vertical position on entering and leaving the water, and thus present a constant resistance at right angles to the line of the horizon.

*Claim.*—The fixed eccentrics *a* *a*, in combination with the collars *c* *c*, the disks C C, or their equivalents, provided with the circular holes or rings 1 2 3 4, the pins *e* *e*, on the collars *c* *c*, the jointed arms *b* *b*, the paddles D D, and the shaft A, the whole constructed, arranged, and operating substantially as and for the purpose herein described.



**70,638.**—J. R. SMITH, Salem, Mass.—*Grate Bar*.—November 5, 1867.—The bars are constructed in series attached together, and are curved to prevent injury from expansion and contraction by heat.

*Claim.*—First, the double-curved ribs A, in combination with the flanges B B and connections a, substantially as and for the purposes set forth.

Second, the combination with the double-curved ribs A, of one or more projections b, flanges B B, and connections a, as and for the purposes set forth.

Third, the combination with the side of the bar of the peculiarly constructed filling piece, composed of the parts lettered B' B', C D, and E, for the purposes stated.

**70,639.**—THOMAS SMITH, California, Mo.—*Wagon Brake*.—November 5, 1867.—The brake is attached to the bar by a bolt that engages the clip band; the said bolt has also an eye that is engaged by a bolt that passes through the bar and is secured by a screw nut.

*Claim.*—First, the band C and bolt D, constructed and secured to the brake bar A, substantially in the manner herein shown and described and for the purpose set forth.

Second, the clamps G, constructed as described, in combination with the rod or bolt D, and band C, substantially as and for the purposes herein set forth.

**70,640.**—J. M. SOUTREXON, New York, N. Y.—*Covering for Walls of Parlors and Saloons*.—November 5, 1867.—The gauze silk, the surface of which is watered like moiré antique, is strengthened by its attachment to a paper backing and is used as a substitute for wall paper.

*Claim.*—As an improved article of manufacture, a covering for parlor walls, composed of ornamental silk gauze combined with a backing of paper or other suitable material, as and for the purpose described.

**70,641.**—JACOB D. SPANG, Dayton, Ohio.—*Gasoline Cook Stove*.—November 5, 1867.—A pipe and branches communicate from the gasoline reservoir with the rings in which the burners are placed. A stop cock regulates the flow of oil from the reservoir.

*Claim.*—First, the disk c' with perforated rim c'', substantially as described.

Second, the disk c', perforated rim c'', in combination with the ring b' and burner C, substantially as described.

**70,642.**—HENRY STANTON, Syracuse, N. Y.—*Finishing Brad*.—November 5, 1867.—The brads are made broad and thin to avoid splitting the wood, and are enlarged in width toward the point the better to retain their hold.

*Claim.*—An improved article of manufacture, the finishing brad, made as herein shown and described, as and for the purpose set forth.

**70,643.**—H. K. STONER, Lancaster, Pa.—*Horse Rake*.—November 5, 1867.—The tooth is braced and strengthened by its attachment to the extended arm of its connecting cylinder.

*Claim.*—The arrangement and construction of a cylinder A with an arm B extending from it at right angles, when the rake tooth F passes through a lug C perforated for its reception, and held by a headed bolt, or its equivalent, through its eye f in a lug D, said lugs, arm, and cylinder all of one piece, substantially in the manner shown for the purposes specified.

**70,644.**—JACOB STOODY, Ripley, Ohio.—*Lifting Jack*.—November 5, 1867.—As the cam lever lifts the elevating bar the rack pawl dogs the ratchet wheel that holds the bar to its position.

*Claim.*—The stand A, the bar B, the eccentric D with lever E and rack F, constructed, arranged, and combined substantially as shown for the purposes set forth.

**70,645.**—ISAAC STRATTON, Keene, N. H.—*Fastening for Pantaloons*.—November 5, 1867.—The fly fronts are attached by elastic cords that allow of expansion without unfastening.

*Claim.*—In combination with the fly front of the pantaloon, the elastic cord c arranged with the eyelet holes a and b, substantially as and for the purpose specified.

**70,646.**—ARTHUR SWAZEY, Chicago, Ill.—*Amalgamator*.—November 5, 1867.—The bend of the tube is filled with mercury. As the buoyant valve rises the ground quartz and water pass down the longer leg of the tube and by pressure rotate the spiral, and commingle the quartz and mercury. The water passes upward and out of the short end; steam fills the jacket around the bend of the tube.

*Claim.*—First, providing the long arm A with the buoyant valve F and stop cock G, arranged to operate as described and for the purposes set forth.

Second, the movable plates d, when arranged to operate substantially as described and for the purposes set forth.

Third, the spiral c, when arranged to operate automatically by the movement of the liquid, substantially as described and for the purpose set forth.

Fourth, the construction of the tube in sections, so that portions of the same may be removed as described and for the purposes set forth.

Fifth, an inverted siphon-shaped tubular amalgamator of movable sections with a buoyant valve F, stop cock G, movable plates d, and self-acting spiral c, when arranged to operate within the tube as described and with its bent portion surrounded with a steam jacket i, for the purposes set forth.

**70,647.**—AUGUSTUS H. TAIT and JOSEPH W. AVIS, New York, N. Y.—*Refrigerator for Brewers*.—November 5, 1867; antedated October 25, 1867.—The pump drives air through the reservoirs which are submerged in a tank filled with cold water; the air escapes in jets in the liquid to be cooled in the adjoining vat.

*Claim.*—In combination with the fermenting vat D, the arrangement of cooling apparatus substantially as described for the injection into the wort of jets of cooled air, for the purpose described.

**70,648.**—AMBROSE TAYLOR, Osawatimie, Kansas.—*Last*.—November 5, 1867.—The strap attached to the last runs along the groove in the block and its catch engages the corresponding catch on the last.

*Claim.*—The spring hook E, secured by its straight shank F, in the block B, and engaging with the hook C in the recess D of the last A, all constructed and arranged to operate as herein set forth for the purpose specified.

**70,649.**—JOSEPH P. TAYLOR, Hudson City, N. J., and JACKSON R. BAKER, Jersey City, N. J.—*Baling Press*.—November 5, 1867.—The cover, which is suspended from the pulleys that have their bearings in the top of the posts, is keyed in position. The conjoint pivoted levers are retained by a yoke common to them all; and as they, by their pivoted pawls, raise the ratchet bars that bear the platform, the spring pawls below dog them to their position.

*Claim.*—First, the combination of the levers F, yoke C, levers E, lifting pawls H, and toothed racks L with each other and with the follower or platform N and bed-plate or frame B, substantially as herein shown and described and for the purpose set forth.

Second, the spring pawls I, constructed as described, having the lever J projecting through the side of the frame, to be operated upon by the foot, and the lower end projecting downward through the bottom of the press, to act as a brake against the smooth surface of the vertical bars L in their descent, when the upper part of said pawl is released from the rack, as herein shown and described.

Third, the arrangement of the cover T, constructed as described, ropes W, keys V, posts U, catch bars S, and box O, as herein described for the purposes specified.

**70,650.**—EDRICK THOMAS, Kickapoo, Ill.—*Lubricating Carriage Axles*.—November 5, 1867.—The lubricator is applied through a channel in the hub that surrounds the box.

*Claim.*—The Babbitt-metal tube F, with the bolt or screw plug E and the hole a in the metallic box C, all arranged in the manner substantially as and for the purpose set forth.

**70,651.**—MARTHA THOMAS, Lower Merion, Pa.—*Retaining Link for Shutters*.—November 5, 1867.—The joint hooks engage in rings in the shutters, and the weight of the tassel keeps them in position.



*Claim.*—The within-described retaining link, composed of a strip *e* of metal, with hooks *a* and *b* arranged at each end, as and for the purpose herein set forth.

**70,652.**—NICHOLAS THOMAS, Chicago, Ill.—*Machine for Cutting Tubes.*—November 5, 1867.—The cutting is arranged in a suitable stock, being forced outward by a screw by means of a double inclined plane, so as to cut tubes of various sizes.

*Claim.*—The construction and arrangement of the stock *A* and *A'*, socket screw *B*, screw *D*, having its lower end inclined below its square shank *b*, inclined horizontal cutter *E*, spring *F*, blocks *G* *H*, and horizontal spring knobs *d* *I*, as herein set forth for the purpose specified.

**70,653.**—SAMUEL B. H. VANCE, New York, N. Y., assignor to MITCHELL, VANCE & Co., same place.—*Suspending Gasoliers and Drop Lights.*—November 5, 1867.—A gas passage being formed through the arms of the lazy tongs, the bell light is either raised or lowered by the cord and pulley attached.

*Claim.*—First, the apparatus, composed of a system of lazy tongs, the arms and pivots of which are constructed with an internal gas passage communicating with a suitable burner, substantially as and for the purpose specified.

Second, the parallel guides *g* attached to the stem *f*, and arranged and operating in relation with the system of lazy tongs, substantially as and for the purpose specified.

**70,654.**—WILLIAM VON HOFE, New York, N. Y.—*Bottle Stopper.*—November 5, 1867.—The elastic plug being inserted in the mouth of the bottle, the screw is tightened and follows the plug down into the rack and against the flange of the nut, causing it to close up tight against the inner surface of the rack.

*Claim.*—The nut *b* and headed screw *d*, entering each other, and with the intervening follower *c* clamping the elastic plug *a*, whereby the parts operate uniformly on each other and form a stopper of nearly uniform diameter throughout, substantially as described.

**70,655.**—ARTHUR WADGYMAR, St. Louis, Mo., assignor to himself, BYRON SLOPER, and W. C. GOULD.—*Process of Preserving Eggs.*—November 5, 1867.—The life of the egg is destroyed by a solution of glycerine and oxalic acid. The boracic acid toughens the membrane. The union of the oxalic acid and carbonate of lime forms an insoluble precipitate which closes the pores of the shell, excluding the air.

*Claim.*—First, the process of killing the animal life of the egg by the use of the substances above described, or their equivalents.

Second, the process of toughening the membrane next to the shell of the egg by the use of the substances above specified, or their equivalents.

Third, the process of closing the pores of the egg shell by the use of the substances above specified, or their equivalents.

Fourth, the process of preserving eggs by the combination of the above-named substances, or their equivalents, when used substantially in the manner set forth.

**70,656.**—WILLIAM WEAVER, Nashua, N. H.—*Device for Scouring Marble.*—November 5, 1867.—The notched surface of the scourer has a sand box surmounted by a tank; the sand is discharged through the perforated bottom by the discharge of water from the tank.

*Claim.*—First, the box *A*, provided with a movable bottom, constructed substantially as and for the purpose set forth and of any suitable material.

Second, the use of a water tank *E*, in combination with the sand box *A*, substantially as and for the purpose set forth.

Third, confining the bottom *B* to the box by means of bolts and nuts, said nuts being constructed so as to answer as handles for the scourer, substantially as represented.

**70,657.**—WILLIAM WEAVER, Nashua, N. H.—*Combination Bench.*—November 5, 1867.—The bench is adjusted to hold the stone in any required position

for dressing, and the vertical drill is operated by the crank and bevel wheels in combination with the treadle elevator.

*Claim.*—First, the fixed and movable portions *A* and *C* of the top, when arranged for adjustment, substantially in the manner and for the purposes set forth.

Second, the movable sliding upper portion of the bench, composed of the fixed and movable top and transverse sliding pieces *B* *B*, when arranged substantially as and for the purpose specified.

Third, the movable and adjustable rising skids *F*, arranged in the manner and for the purpose specified.

Fourth, the drilling mechanism, constructed as shown and described, combined with a bench, substantially in the manner and for the purpose set forth.

Fifth, the movable and reversible block *D*, constructed in the manner and for the purposes specified.

Sixth, the movable and adjustable step *E*, arranged for operation substantially in the manner and for the purpose set forth.

Seventh, the employment of the adjusting screws *a* and *g*, or the equivalent thereof, substantially in the manner and for separate purposes as set forth.

Eighth, the edging notch *e* in the end of the portion *G* of the bench, for the purpose specified.

Ninth, the combination of the movable sliding upper portion as described, the skids *F*, block *D*, step *E*, screws *a* and *g*, or the equivalent, with or without the drilling mechanism, the whole constructed and arranged for adjustment and operation substantially as and for the purposes set forth.

**70,658.**—ALEXANDER WEBSTER, Seneca Falls, N. Y.—*Steam Cylinder for finishing Cloth.*—November 5, 1867.—The perforated steam pipe discharges steam into the perforated cylinder, which is used in dressing woolen goods. A discharge pipe carries off the waste.

*Claim.*—The combination and arrangement of the perforated cylinder *A*, perforated steam pipe *B*, water pipe *E*, and plate *D*, substantially as described for the purpose specified.

**70,659.**—EBEN WEBSTER, Holland, Mich.—*Stove-pipe Drum.*—November 5, 1867.—The two slotted, inverted cones are rotated with regard to their slots to regulate the draft through the drum.

*Claim.*—First, the construction of the inverted, conical, slotted cone *B*, secured at its base to the inner circumference of the drum *A*, and containing the inverted, conical, slotted cone *C*, whose apex extends slightly through the apex of the outer cone *B*, and to whose base the short cylinder is secured, having an outer ring resting and supported upon the flattened base of the cone *B*, sliding freely thereon, all arranged and operating as described for the purpose specified.

Second, the inverted slotted cone *B*, whose base supports the inner slotted cone *C*, by the ring around its base turning freely thereon, the inner cone extending above and below the outer cone, as herein shown and described.

**70,660.**—JACOB WHEELER, Huntington, Ind.—*Horseshoe.*—November 5, 1867.—The side pieces of the shoe are hinged to the toe piece and connected by the toggle behind.

*Claim.*—The combination of the hinged tie or brace *D* with the hinged quarters *B*.

**70,661.**—WILLIAM N. WHITELEY, Springfield, Ohio.—*Pitman Head and Crank Wrist Connection.*—November 5, 1867.—The crank box permits a rotation of the pitman upon its axis so that the points of the cutters may be raised or lowered without torsion of the pitman rod. The elongation of the shank passing through the box gives steadiness to the connection between the pitman and pitman head. The wrist pins after turning and finishing are packed in boxes in company with charcoal, and are submitted to a high temperature for a sufficient time to carbonize and convert the surface into steel, giving the toughness of the iron with a steel frictional surface.

*Claim.*—First, the pitman-head box *F*, constructed with two bearings whose axes are at right angles to and cross each other, substantially as and for the purpose set forth.

Second, in combination with the pitman-head box



F the hollow wrist-pin, Fig. 6, provided with the escape hole D, so as to form a reservoir for a liquid lubricant within the journal, substantially as set forth and described.

**70,662.**—DAVID WHITTEMORE, North Bridgewater, Mass.—*Machine for Pegging Boots and Shoes.*—November 5, 1867.—Improvement on Landfear's machine, September 13, 1864. See, also, abstract No. 70,581, current volume.—The improvements refer to means for operating the feeding sleeve; for shifting the line of pegging without stopping the machine; for holding the peg wood while being cut by the knife; for cutting off the pegs by a knife which oscillates on its pivot and has a lateral in addition to its vertical play.

*Claim.*—First, the lever V with its bent slot U and pawl a in combination with the bar T and the ratchet on the surface of the feed sleeve, all constructed and operating substantially as described.

Second, the slide S' operating as described and worked by lever L', substantially in the manner and for the purpose specified.

Third, the supplemental pawl l engaging the ratchet wheel m when the pawl c is disengaged from it, for the purpose of preventing the peg wood from slipping backward while the feed roll is freed from the action of pawl c and the knife is severing the peg, thus aiding in imparting steadiness and precision to the movements of the peg wood, as set forth.

Fourth, the knife g, constructed, arranged, and operating in the manner described.

**70,663.**—J. W. WILDER, New York, N. Y., assignor to himself and E. BUTTERICK, same place.—*Bed Bottom.*—November 5, 1867.—Explained by the claim and illustration.

*Claim.*—The spring-bed bottom, constructed as described, consisting of the rectangular frame A, the slats a b, which are provided with metallic tubes c enclosing springs d, which support the plungers e, having rounded heads upon which the flexible slats of the rectangular frame D rest, substantially as described for the purpose specified.

**70,664.**—LEVI WILKINSON, New Haven, Conn.—*Shrinking Tires.*—November 5, 1867.—The tire is curved inward and secured by set-screws. It is shrunk by straightening down the curve.

*Claim.*—The combination of the block A and brackets B and C with the screws c and d and g and h, when the whole are constructed and fitted to produce the result, substantially as herein described and set forth.

**70,665.**—JOHN L. WILLCOX, Preble, N. Y.—*Clothes Line Holder.*—November 5, 1867.—The endless line runs in the grooves in the pulleys and is tightened by the hanging weight and pawl lever.

*Claim.*—The endless clothes line M in combination with the pulleys d, lever i, and ratchet e, and pawl g, as described and for the purpose set forth.

**70,666.**—WILLIAM H. WILLIAMS, Little Falls, N. Y.—*Elevated Railroad.*—November 5, 1867.—The columns rise at the intersections of cross streets, and are braced by their arched girders. The columns are connected by iron girders that are elevated above passing vehicles. From the top of the columns proceed the suspension cables which support the tracks.

*Claim.*—First, the elevated railroad consisting of a track or tracks suspended over a street by means of towers A and cables H, substantially as described.

Second, the supporting towers A constructed as above described, namely, by combining and arranging together substantially as shown the transverse arches E and the compound diagonal arches F, said arches all springing from the columns B.

Third, the hollow connecting beams G, which tie the arches to each other, in combination with the supporting cables H, which pass through said beams, so that they are protected and also held in place by the beams, substantially as shown.

**70,667.**—GEORGE L. WITSIL, Philadelphia, Pa., assignor to THOMAS E. HAUBERGER, same place.—*Washing Machine.*—November 5, 1867.—The box has radiating compartments with ribbed interior surfaces.

As the box rotates the clothes pass from one apartment to another, rolling over the intervening angles.

*Claim.*—The stelliform case with radiate sides C and door D, turning upon a tubular journal G, and having diagonal internal ribs I, the several parts being constructed and arranged in relation to one another substantially as set forth.

**70,668.**—F. R. WOLFINGER, Chicago, Ill.—*Extension Table.*—November 5, 1867.—When the frames are drawn out the lazy tongs connecting them support the leaves of the table.

*Claim.*—First, the end rails C formed in three or four parts  $c^1 c^2 c^3 c^4$ , in combination with the central folds D, substantially as herein shown and described.

Second, the combination of the narrow strips or leaves I with the central parts  $c^2 c^3$  of the end rails C, substantially as herein shown and described.

Third, the central strips J having the legs K, in combination with the central parts  $c^2 c^3$ , end folds E, and central folds D, substantially as described for the purpose specified.

Fourth, the narrow leaves I resting upon the parts  $c^2 c^3$ , in combination with the leaves  $G^1 G^2 G^3 G^4$ , as herein set forth for the purpose specified.

Fifth, the arrangement of leaves  $G^1 G^2 G^3 G^4$  and narrow strips I whereby the leaves  $G^2 G^3$  are folded upon the end rails G, having the leaves  $G^2$  and strip I in the same horizontal plane to form the top of the table, and the leaf  $G^1$  folding down over the ends of the said leaves  $G^2 G^3$ , as herein shown and described.

Sixth, the leaf  $G^2$  hinged in an elevated position upon the side rail B and supporting the leaves  $G^1$  and  $G^3$ , the outer end of the leaf  $G^1$  adjusted by the spring catch H, as and for the purposes specified.

**70,669.**—DANIEL WOODBURY, Minneapolis, Minn.—*Machine for Hacking Brick.*—November 5, 1867.—The pendant rods of the pivoted arms clasp the brick while being carried.

*Claim.*—A machine for hacking brick, constructed and operating substantially as herein shown and described.

**70,670.**—E. G. WOODSIDE, San Francisco, Cal.—*Wheel Hub Box.*—November 5, 1867.—By surrounding the boxes with elastic packing the bearings are kept snug to the wheel.

*Claim.*—First, surrounding the box A with an elastic packing B, substantially as described for the purpose set forth.

Second, in combination with the packing B, the end packings c and d', substantially as described for the purposes set forth.

**70,671.**—WM. S. DE ZENG, Geneva, N. Y.—*Preparation of Fertilizers.*—November 5, 1867.—The slag of smelting furnaces is reduced to powder and used as a fertilizer, alone or in company with other manures.

*Claim.*—The application of slags of reducing and smelting furnaces as a fertilizer, using the slags and adapting them for this purpose, substantially as described in the above specification, viz., in a finely pulverized condition, also in combination with acids and alkalies, and also in intimate admixture with certain ammoniacal compounds, above specified.

**70,672.**—J. M. FAIRCHILD, New Haven, Conn., assignor to himself, J. K. BUNDY, and J. M. TOWNSEND, same place.—*Fire-Alarm Telegraph.*—November 5, 1867.—The wheel has numerous holes, into any of which the pins which operate the key may be secured so as to vary the signal for the different stations communicating with headquarters. The insulating of the operating mechanism prevents the operator receiving a shock therefrom. The partition slides down to cover up the crank and expose the key when necessary.

*Claim.*—First, the arrangement of the sliding partition F, the platform C, and partition D, with the box A, and combined with a signaling apparatus substantially in the manner herein set forth.

Second, operating the key of telegraphic instruments by means of a mechanism connected therewith but perfectly insulated therefrom, substantially in the manner herein set forth.

Third, the arrangement described of the pins or projections a b c, &c., upon the wheel R when con-



structed so as to be adjustable to different signals, substantially as set forth.

Fourth, the arrangement of the lever W so as to arrest the movement of the wheel R at each revolution, as and for the purpose described.

**70,673.**—J. M. FAIRCHILD, New Haven, Conn., assignor to himself, J. K. BUNDY, and J. M. TOWNSEND, same place.—*Mechanism for Opening and Closing Telegraphic Circuits.*—November 5, 1867.—Designed for mechanically opening and closing telegraphic circuits in fire-alarm telegraphs. The grooved cam, on the face of the wheel which is turned by a crank, has projections which oscillate a lever whose end traverses in the groove, each upward motion of the lever opening the circuit by bringing the ends of the spindles together.

*Claim.*—First, the arrangement of the two spindles J K in connection with their respective wires upon the non-conducting plates G so as to open and close the circuit, substantially as set forth.

Second, the arrangement of the grooved cam wheel C and the lever F combined with the spindles J K so as to open and close the circuit by the turning of the wheel C, substantially as set forth.

**70,674.**—HENRY G. PEARSON, New York, N. Y.—*Pigeon Hole for Post Offices, &c.*—November 5, 1867.—The pigeon holes have perforated removable bottoms to allow the escape of dirt.

*Claim.*—The employment of a perforated or open-work shelf for the reception of letters, packages, &c., as and for the purposes designed.

Also, the same when applied as to be readily removable, as and for the purpose described.

**70,675.**—ANSON T. ADAMS, Indianapolis, Ind.—*Meat Mangler.*—November 12, 1867.—The jaws are coupled by the vertical pin and regulated by the spiral spring in connection with the serrated teeth.

*Claim.*—The combination of the two jaws with the plates I I, bars m m, and springs n n, all arranged and operating as and for the purpose specified.

**70,676.**—JAMES W. AIKEN and JOHN H. STONE, Philadelphia, Pa.—*Moth-proof Case.*—November 12, 1867.—The inner of three concentric cylinders is of gauze or perforated metal, and has an open bottom and top, and a central transverse diaphragm. The top of this cylinder has a slip cover of the same material, and its bottom opens into a cylindrical recess in the bottom of the main cylinder, which may be stopped with a cork. The outer cylinder is metallic, and has a slip cover whose lower edge is closed by a surrounding band of rubber.

*Claim.*—A sheet metal moth-proof case for a lady's furs, having the perforated central cylinder A and the recess b', in combination with the cylinder B and the elastic banding b'', the said parts being constructed, arranged, and combined to operate together substantially as and for the purpose described.

**70,677.**—WALTER AIKEN, Franklin, N. H.—*Needle Machine.*—November 12, 1867.—The blanks are clamped in the arbors and brought singly between the grooved rest and rotating cutter, and are reduced by the cutter, which turns in a longitudinal plane, the arbors rotating meanwhile. After the blank has been reduced it is drawn back from between the rest and cutter, the arbor wheel is unlocked from the spring detent-pin, and another blank brought into position.

*Claim.*—The machine or combination substantially as described for the purpose set forth, that is, as composed of the rotary cutter A, the grooved rest E, the series of rotary arbors K, their carrier or wheel I, and operative mechanism, the shaft F, and the mechanism for revolving and moving it longitudinally, and the bolt s, and mechanism for operating such bolt, substantially as explained.

**70,678.**—WALTER AIKEN, Franklin, N. H.—*Machine for Making the Tongues of Knitting Machine Needles.*—November 12, 1867.—The machine first forms the bowl and nick of the tongue, and simultaneously forces back the feeder upon the wire. The wire is then moved between the flattening dies; it is then moved to the punching dies, then to the dies rounding the end next the hole. The tongue with the sharp piece projecting from it is then cut off.

*Claim.*—The combination of the carriage C, the feeder G, the bowl-forming dies w' v', and the flattening dies d' e', all provided with mechanism for operating them, substantially as described.

Also, the combination of the carriage C, the feeder G, the nicking and bowl-forming dies n' o' w' v', and the flattening dies d' e', all provided with mechanism for operating them, substantially as set forth.

Also, the combination of the carriage, the feeders, the bowl-forming dies, (or the latter and the nicking dies,) and the punch f', and punch die g', all provided with mechanism for operating them, substantially as set forth.

Also, the combination of the carriage, the feeders, the bowl-forming dies, (or the latter and the nicking dies,) the punch and punch dies, and the rounding dies h' i', all provided with mechanism for operating them, substantially as specified.

Also, the combination of the carriage, the feeder, the bowl, the punching dies, (or the latter and the nicking dies,) the punch and punch die, the rounding dies, and the separating dies k' l', all provided with mechanism for operating them, substantially as explained.

**70,679.**—BIDDLE ARTHURS, Pittsburg, Pa.—*Hot-air Furnace.*—November 12, 1867.—A section of the heating drum is cut out, to make free passage from the fire chamber to the interior of the damper. The drum is made of rolled iron, and is within a brick chamber, from which pipes communicate with the various apartments of the house; return pipes from these apartments conduct air to be heated.

*Claim.*—The drum or heater of sheet or plate iron, with an opening in its bottom and front, connecting with a fire space c of brick, the edges of the heater or drum around such opening having flanges i built into the furnace walls, constructed and arranged substantially as described for the purposes specified.

**70,680.**—JAMES E. ATWOOD, Trenton, N. J., assignor to himself and CYRUS H. MCCORMICK, New York, N. Y.—*Saw.*—November 12, 1867.—The tooth is secured within the segmental cavity by ratchet teeth at its inner end, which engage counterpart notches of the saw plate.

*Claim.*—The tooth A, when held in its position by ratchet c c c, for the purpose herein described.

**70,681.**—CHARLES C. AYER, Chelsea, Mass., assignor to himself and HENRY A. BREED, Lynn, Mass.—*Carriage Wheel.*—November 12, 1867.—The inner tire is semicircular in section, and covers the concave side of the wheel rim. The metallic spokes pass through the rim, and are secured by nuts in cylindrical chambers just beneath the outer tire. The nuts have rubber washers.

*Claim.*—The combination as well as the arrangement of the metallic annulus or inner tire D with the wooden felly and the spokes and hub, as explained.

Also, the combination as well as the arrangement of the metallic annulus or inner tire D with the wooden felly, the hub, spokes, and outer tire, as described.

Also, the combination as well as the arrangement of the metallic annulus D, the wooden felly, the springs and chambers therein, the spokes, and the hub, as described, the hub, under such a combination of the spokes with it and the felly, being suspended from the upper half of the felly and on springs, while the wheel may be in revolution and use.

**70,682.**—S. C. BABBITT, Meriden, Conn., assignor to THE MERIDEN BRITANNIA COMPANY, same place.—*Salvers.*—November 12, 1867.—The salver is strengthened by a strip of stiff metal under the rim.

*Claim.*—The mode or process of stiffening the rim or outer edge of a soft-metal or Britannia salver, substantially as described.

Also, a Britannia or soft-metal salver constructed substantially as described.

**70,683.**—CHARLES A. BAKER, Auburn, N. Y.—*Truss.*—November 12, 1867.—The bar is attached to the outer side of the fore pad, and is bent so as to cause an upward pressure of the auxiliary pad.

*Claim.*—The front pad or plate E, provided with the rod A, auxiliary pad B, and straps D G and H, all constructed and arranged substantially as and for the purpose set forth.



**70,684.**—JAMES BATHGATE, Cincinnati, Ohio.—*Chalk-line Reel.*—November 12, 1867.—The stake has a winding reel, an armed point, and a chalk receptacle, covered by a screw cap, through which the line passes.

*Claim.*—The combined arrangement of the reel C c, chalk receptacle D, cap E, apertures F G, and line H, all constructed and employed as and for the purposes specified.

**70,685.**—STEPHEN BAZIN and JAMES A. BAZIN, Canton, Mass.—*Machinery for Laying and Twisting Rope.*—November 12, 1867.—Improvement on their patents February 28, 1844, and April 25, 1854. A guide wheel slides on a horizontal rod parallel with the axis of the winding wheel; the rope passes from the end of the crane over the guide pulley and thence to the reel, by which means it is coiled regularly. The strands are passed several times around smooth rollers of equal rotation, a "fleeter" in each case insuring the proper position of the strands on the rollers.

*Claim.*—The sliding guide pulley N, in combination with the crane M and the winding reel O, operating substantially as described for the purpose set forth.

Also, the rolls v, so arranged as to revolve simultaneously, in combination with the fleeters b' and the guide pieces a', or their equivalents, for the purpose of insuring the equal delivery of the strands, substantially as described.

**70,686.**—JASON A. BIDWELL, East Boston, Mass.—*Tapering Drill.*—November 12, 1867.—The spiral cutter has a reamer, which lies in the spiral groove and acts to enlarge and taper the hole. A projection on the reamer indicates when it has entered sufficiently and trims the burr from the edge.

*Claim.*—First, a twisted reamer c, which is adapted to serve, in conjunction with a spirally-grooved drill a, for making tapering holes in metal, substantially as described.

Second, the construction of a cutting shoulder e upon the shank c' of a twisted reamer c, substantially as described and for the purpose specified.

**70,687.**—ALBERT BINGHAM, Newtonville, Mass., assignor to WILLIAM T. MUDGETT, same place.—*Bed Bottom.*—November 12, 1867.—The bolster piece is connected to its supporting bar by sliding pins surrounded by spiral springs. The pins pass through the head ends of the slats, and the springs support them and the bolster piece, allowing depression of the slats with the bolster piece or singly.

*Claim.*—In a spring bed bottom as follows, that is to say, having its bolster piece D, its series of pins e and slats g supported by springs f, so as to be movable vertically together thereon, and so that each slat may move independently of the bolster piece and its guide pins, the whole being substantially as described.

Also, the improved spring bed bottom as constructed, not only with each of its slats supported at its foot or lower end on a stationary cross bar, but as having a bolster piece D, series of pins e, and slats g supported by springs f, so as to be movable vertically together thereon, and so that each slat may move on its spring independently of the bolster piece and its guide pins, the whole being substantially as specified and represented.

**70,688.**—EDWIN BIRKENSHAW, Ashuelot, N. H.—*Machine for Finishing Woolen Cloth.*—November 12, 1867.—The axes of the two teasing cylinders are in one vertical plane. The cloth rests on a series of rollers, allowing but not forcing its advance. The cloth after passing over the upper feed rollers descends on the series of rollers and goes under the bridge, where access is gained to it by the attendant as it runs in contact with the two teasing cylinders. The shearing cylinder is in the rear of the lower teasing cylinder.

*Claim.*—Improved arrangement of the two teasing cylinders, the shearing mechanism, and their two sets of feed rollers, one teasing cylinder under such arrangement being disposed over the other, as described.

Also, the combination and arrangement of the series of rollers D D, &c., with the shearing mechanism,

the feed rollers, and the two teasing cylinders, arranged in manner as described and represented.

Also, the combination as well as the arrangement of the bridge F, the series of rollers D D, &c., the shearing mechanism, the feed rollers, and the two teasing cylinders, arranged as described, the said feeding cylinders and feed rollers being provided with a series of guide rollers arranged with them, as described, and the rotary shearer brush and the teasing cylinders being provided with mechanism for operating them, substantially as hereinbefore explained.

**70,689.**—LUTHER BOYD and PHILIP KRIEGBAUM, Springfield, Ohio.—*Car Coupling.*—November 12, 1867.—The moving head is supported on sliding rods, whose rear ends impinge on spiral springs. The object is to lessen the jar of the draw head.

*Claim.*—The movable head B, as constructed in combination with stationary head C, slides e e, and springs d d, all arranged and operating in the manner and for the purpose herein set forth and described.

**70,690.**—M. S. BRINGIER, Ascension Parish, La.—*Evaporation and Vaporization.*—November 12, 1867.—A number of small tubes project from the sides of the generator, the ends entering at different elevations to insure circulation. A vertically submerged gauze cylinder rotates in the boiler.

*Claim.*—First, the application of one or more series of tubes of small diameter to the external surface of boilers, kettles, or other vessels, as herein described, for the purpose set forth.

Second, the use of a revolving coil of wire gauze, or the equivalent thereof, inside steam boilers, as herein described, for the purpose set forth.

Third, the combination of one or more series of small tubes externally applied to boilers, with an internal revolving coil or cylinder of wire gauze, or its equivalent, as herein described, for the purpose set forth.

**70,691.**—M. S. BRINGIER, Ascension Parish, La.—*Extracting Saccharine Matters from Sugar Cane.*—November 12, 1867.—The boiler has a downward cylindrical leg having around its inner side a spiral steam pipe, which is also carried around the lower portion of the kettle on the inside. This cylindrical pipe communicates by a horizontal pipe with a vertical pipe containing a rotary shaft carrying means for comminution of the mass of divided sugar cane which had been fed into the boilers.

*Claim.*—First, extracting saccharine matter from sugar cane, or other vegetables containing it, by maceration and disintegration, as herein described, when the same is effected by the process and apparatus described, or any other which is substantially the same in its mode of operation.

Second, the combination of the receiving boiler A, steam pipe B, pipes H C and D with the shaft E, when the latter is provided with the disintegrating appliances herein described, for the purpose set forth.

**70,692.**—O. M. BROOKS and E. J. MATTESON, Janesville, Wis.—*Mop Wringer.*—November 12, 1867.—The rolls are brought together by depression of a treadle frame, which is raised again by a spring to separate the rolls.

*Claim.*—First, the inclined supports e and h, when pivoted at opposite ends of the horizontal yokes H, and used to support two parallel and similarly operating rolls B B, substantially as described.

Second, the combination and arrangement of a treadle F, pivoted at the ends of two horizontal yokes H with the connecting links f and g, springs i, inclined supports e and h, and horizontal yokes H, when the whole are constructed, arranged, and used substantially as described.

**70,693.**—ALEXANDER R. CAMPBELL, Cheltenham, Mo., assignor to himself and JOHN B. BOMPART.—*Washing Machine.*—November 12, 1867.—The suds box has a curved bottom and a nearly vertical end, armed with transverse ribs. The ribbed dasher is pivoted to a transverse shaft, sweeps over the curved surface, and presses the clothes against the end.

*Claim.*—The rock shaft e, semicircular corrugated dasher E, corrugated dash board g, smooth dash board h, shafts k, cross bar M, braces n, cover o, standards d, dove-tailed slots q, and the corrugated circular and



square ends of a washing machine, all in combination, when constructed and operating substantially as shown and specified.

**70,694.**—ASA L. CARRIER, Washington, D. C.—*Attaching Ferrules to Handles.*—November 12, 1867; antedated November 2, 1867.—The central portion of the ferrule is compressed into a circumferential groove of the handle.

*Claim.*—The ferrule *b*, constructed and applied to tool handles, umbrellas, and canes, substantially as described, and operating as and for the purposes set forth.

**70,695.**—WILLIAM CARROLL, Hillsdale, Mich., assignor to himself and S. H. RHODES, Clyde, Ohio.—*Horse Hay Fork.*—November 12, 1867.—The tube contains an axial, sliding rod, at whose lower end are curved, pivoted figures, which, by a downward movement of the rod, pass through holes in the tube and engage the hay. The hoisting rope is attached to the upper end of the rod, and, when tripped, retracts the points to disengage the hay.

*Claim.*—The toggle joint *E*, springs *D*, and nibs *I*, in combination with the tubular shaft and rod, substantially as and for the purpose set forth.

**70,696.**—S. A. CHASE, Boston, Mass., assignor to himself and STEPHEN SMITH, same place.—*Car Truck.*—November 12, 1867.—The load and upper frame are sustained on an upper set of wheels whose peripheries turn on and with the axles of the lower wheels. The upper axles have a slightly longitudinal movement in their boxes to allow them to run a little forward of the other wheels.

*Claim.*—First, the combination with the main axles and wheels of a car truck of the upper rollers when supported in elongated bearings, substantially as and for the purposes described.

Second, the combination with the journals *c c* of their elongated bearings and lubricating chambers, substantially in the manner and for the purposes set forth.

**70,697.**—G. H. CLEMENS, Baltimore, Md., assignor to himself and HENRY A. CHADWICK, Washington, D. C.—*Journal Box for Cars.*—November 12, 1867.—The case consists of two hemispherical castings. The box has an outer, convex surface to fit the top of the case, segmental chambers to contain oil, and radial, wooden blocks, perforated to allow passage for the oil from chamber to chamber. The pores of the wood allow the oil to seep through to the journal.

*Claim.*—First, the hollow box *E*, having the blocks of wood arranged therein, said box being formed spherical on its upper surface to permit of its adjusting itself to the journal, as herein described.

Second, in combination with the box *E*, constructed as described, the case composed of the parts *G* and *H*, constructed as set forth.

**70,698.**—HARRISON COLE, Cincinnati, Ohio.—*Chair.*—November 12, 1867.—Explained by the claim and illustration.

*Claim.*—The three-legged chair standard *A*, in combination with the brace *A*, and the lugs *C C C* and *C' C' C'* for attaching it to the floor and chair bottom, substantially as shown.

**70,699.**—WASHINGTON J. CORTHELL and PHILIP RICHARDS, Boston, Mass.—*Door and Window Fastener.*—November 12, 1867.—The bolt has a recess on the under side of its rear end, and a spring rises up into this recess which prevents the retraction of the bolt, until depressed by the inner end of the knob, which admits of movement for this purpose.

*Claim.*—The combination and arrangement of the knob and shank *d* and *e*, the projection *f*, the spring *h*, with the bolt *b*, constructed with its recess *e*, moving back and forth in the case *a*, substantially in the manner and for the purpose above set forth.

**70,700.**—JAMES S. CULVER, Springport, N. Y.—*Horse Hay Fork.*—November 12, 1867.—The shank has two bars to both of which the point is pivoted. The point is entered when straight with the shank, and is turned to engage the hay by a downward movement of the bar, to which the hoisting rope is

attached. The hay is discharged by tripping this bar.

*Claim.*—The attaching of shoulder pieces to the main stem of the hay elevating fork, substantially as and for the purpose described.

**70,701.**—ROBERT DEVEREUX, Buffalo, N. Y., assignor to himself and BERNARD H. MUEHLE, same place.—*Bracket for Lamps.*—November 12, 1867.—The circular rim has an opening for passage of the shank of the pedestal.

*Claim.*—The circular rim *A*, having an opening *D*, for the purpose and substantially as herein set forth and described.

**70,702.**—FRANK DOUGLAS, Norwich, Conn.—*Blind Staple.*—The points are corrugated to resist retraction.

*Claim.*—As a new article of manufacture a blind staple of corrugated wire, as herein described.

**70,703.**—THEODORE DREIDEL, Cincinnati, O.—*Bluing Paper for Laundries.*—November 12, 1867.—Three parts by weight of indigo are dissolved in one part oil of vitriol. The surplus acid is discharged by washings until the sour taste is removed, and the solution allowed to dessicate to the consistence of printers' ink. It is applied to both sides of white paper by rollers.

*Claim.*—The prepared bluing paper for laundry purposes, substantially as set forth.

**70,704.**—CYPRIER MARIE EESSIÉ DU MOTAY and CHARLES RAPHAEL MARÉCHAL, Metz, France.—*Making Hydrogen Gas.*—November 12, 1867.—The hydrates of potash, soda, baryta, or chalk, &c., are mixed with charcoal, pit coal, or peat, &c., and decomposed by a red heat into carbonic acid gas and hydrogen.

*Claim.*—The method of and means for producing or generating hydrogen gas, substantially as herein set forth and described.

**70,705.**—CYPRIER MARIE EESSIÉ DU MOTAY and CHARLES RAPHAEL MARÉCHAL, Metz, France.—*Making Oxygen Gas.*—November 12, 1867.—Oxygen is absorbed from the atmosphere, and then disunited by subjection to a bright red heat. The oxygen and the sulphurous gas thus generated are received into a vessel containing oxide or carbonate of magnesia. The sulphurous acid is transformed into sulphite of magnesia. The oxygen is collected into a gas holder.

*Claim.*—The method of and means for obtaining oxygen gas from atmospheric air, substantially as and for the purposes herein set forth and described.

**70,706.**—HENRY DUMPHY, New York, N. Y.—*Cloth-folding Machine.*—November 12, 1867.—Improvement on his patent, May 27, 1862. The cloth is passed over the bulging spreading roller, which is adjustable, and between the folders. The latter are formed as in the patent aforesaid, and are removable. From the folders the cloth passes beneath the inclined steam-heated ironer, and from that to the rollers by which it is drawn forward.

*Claim.*—First, the arrangement for holding the folders in the machine, consisting of the clamps *e*, in combination with the cheeks *a a* of the holders *B*, the whole constructed and operating substantially as described and specified.

Second, the rollers *F F*, provided with narrow rings of leather, rubber, or other similar material, in combination with the folding apparatus, substantially as described and specified.

Third, the hinged ironer *D*, in combination with the folding apparatus, substantially as described and specified.

Fourth, the laterally and back-and-forward adjusting, retaining and stretching apparatus, consisting of the roller *n*, bar *p*, and traversing blocks *o* and *r r*, in combination with this folding apparatus, substantially as described and specified.

Fifth, the roller *n*, tapering toward both ends for spreading and stretching the cloth, in combination with the laterally and back-and-forward adjusting mechanism and the folding apparatus, substantially as described and specified.

**70,707.**—CHARLES E. EMERY, Brooklyn, N. Y.—*Steam Engine.*—November 12, 1867.—The cylinder



and steam ports are lined with a non-conducting substance to prevent the abstraction of heat from its inner surface during the expansion of steam after it is cut off, and also to prevent the absorption of heat from the steam when at its highest temperature. The working part of the cylinder may be inclined, and it may have lined extensions at each end. The piston in this case has extension blocks filling the working part of the cylinder at the ends of the stroke, leaving little steam exposed to the cooling influence of the metallic surface. The portion of the piston rod inside the cylinder may be covered by a non-conducting case, which enters a cavity in the block.

*Claim.*—First, lining the interior surfaces of the cylinders of engines operated by steam or heated gas with glass, porcelain, enamel, or equivalent substance, in manner substantially as described, to produce the results specified.

Second, the combination of the cylinder X with the cylinder N, or its equivalent.

Third, the elongated piston A, in combination with the lining or protecting material *x x*.

Fourth, the combination of the pipe *b* with the piston rod or trunk, all substantially as and for the purposes herein set forth.

**70,708.**—WILLIAM FALLON, Washington, D. C.—*Paper File*.—November 12, 1867.—The sides are connected by a flexible flap, and one of them has an extension of the same sort. These are surrounded, when closed, by an elastic band, whose conical knob at one end enters a suitable clasp at the other.

*Claim.*—The combination of a folding extension back to file binders with flap in front, and india-rubber strap with reinforce on each end and clasps for the same, as described herein.

**70,709.**—WILLIAM A. FENN, Wolcott, N. Y.—*Salt Sifter*.—November 12, 1867.—The cap has a perforated circular top, which is oscillated by a thumb catch and spring.

*Claim.*—First, the arrangement of the plate C, in combination with the bottle or case A, so as to operate in the manner described.

Second, in combination with the above, the arrangement of a spring so as to return the plate, substantially as herein set forth.

**70,710.**—JOHN E. FRY, Johnstown, Pa.—*Mold for Casting Steel Ingots*.—November 12, 1867.—The steel is poured into a central mold, which is connected through a sand core with the bottoms of a series of surrounding molds.

*Claim.*—The series of iron ingot molds *e e'*, in combination with the sand core *a*, constructed substantially as hereinbefore described, for the purpose set forth.

**70,711.**—MOSES C. GOODALE, Lowell, Mass., assignor to himself and LOUIS GODDER, same place.—*Belt Cutter*.—November 12, 1867.—A combination of shear cutter, punch, lace awl, and pincers.

*Claim.*—The arm *f*, with its punch seat *h*, when arranged to operate substantially as described and fully set forth.

Also, the arrangement and construction of the knife *b*, awl *n*, and punch *e*, in combination with the pliers *k* and *m*, all for the purposes substantially as herein described.

**70,712.**—M. T. GOSNELL, Baltimore, Md.—*Apparatus for Burning Hydro-carbon Oils*.—November 12, 1867.—Gas produced from benzine is carried to the perforated tubes beneath the perforated tile under the steam generator, and air is mingled with the burning gas above the tile.

*Claim.*—The combination and arrangement of a tube or pipes B B, a perforated hearth C, a valve or valves or inlets (for admission of atmospheric air) D D, with a boiler A and furnace E, or their equivalents, in the manner and for the purposes set forth.

**70,713.**—ALFRED A. GRAY and W. C. HYDE, Detroit, Mich.—*Adjusting Looking-glasses, &c.*—November 12, 1867.—The looking-glass is connected to a fixed support by a ball and socket joint whose tension is adjustable by a set-screw.

*Claim.*—The hinge and movable hinge plate, the thumb-screw, or screw that secures the hinge plate,

and the mode of adjustment, substantially as and for the purpose set forth.

**70,714.**—E. HERBSTER, Chicago, Ill., assignor to himself, T. TRIPP and E. F. BROWN, same place.—*Sash Fastener*.—November 12, 1867.—The spring spur-wheel, engaging the rack upon the sash, has a series of holes which are entered by a spring-pin to fasten the sash. The pin has a projection which traverses a rectangular slot in its socket-guide by which it may be kept in its retracted position.

*Claim.*—First, the combination of wheel D, having holes *b b*, &c., with pin E, arranged to operate in sleeve F, having slots *h* and *n*, for the purpose of locking sash, substantially as herein set forth.

Second, the combination of wheel D, spring C, pin E, sleeve F, and key T, arranged to wind said spring up and to fasten sash, substantially as and for the purpose set forth.

**70,715.**—W. O. HICKOK, Harrisburg, Pa.—*Paper Ruling Machine*.—November 12, 1867.—A rounded table is interposed between the pen cylinder and the web-supporting roller next thereto.

*Claim.*—The application thereto of a stationary table G, so that it will operate in combination with the web E, cords F, and feed rolls D D', substantially in the manner described and set forth for the purpose specified.

**70,716.**—JASON HILL, Astwood, England.—*Needle Wrapper*.—November 12, 1867.—Explained by the claim and illustration.

*Claim.*—In combination with a wrapper in or on which needles are placed or stuck, an incision or flap at or near the upper left hand corner for forming a cover for and for gaining access to the tops of the needles, substantially as and for the purpose described.

**70,717.**—N. D. HINMAN, Stepney Depot, Conn.—*Clutch for Hay Elevator*.—November 12, 1867.—Improvement on his patent November 19, 1864; reissued August 20, 1867. When the load has been raised to proper elevation the catch is lifted, and the rope caught by a pawl, which sustains the load, while the frame is moved horizontally. On the return of the frame the pawl is tripped, and the end of the rope allowed to descend.

*Claim.*—First, the arrangement described of the levers L and N with the yoke R and pulley E, when constructed so as to operate in the manner and for the purpose substantially as set forth.

Second, the combination of the levers L M and N, when constructed so as to operate as and for the purpose specified.

**70,718.**—PETER S. HOE, New York, N. Y.—*Pocket Cutlery*.—November 12, 1867.—Explained by the claim and illustration.

*Claim.*—The combination in a single instrument of a knife, pincers, and bodkin, arranged to open and shut like a pocket knife, substantially as described and specified.

**70,719.**—WM. J. HORNER, Cincinnati, Ohio.—*Scraper*.—November 12, 1867.—The draw beam is hinged on the upper side, and has a self-attaching catch on the lower side, which is tripped by a rod extending through the spreader bar of the handle.

*Claim.*—In combination with the divided and hinged beam A B C, shovel D and handles E, the tongue F, self-locking catch G and trigger L, substantially as and for the purposes set forth.

**70,720.**—FRANK HORTON, Silver Creek, N. Y., assignor to himself and ALBERT HORTON, same place.

—*Hay or Cotton Press*.—November 12, 1867.—The follower moves horizontally. The whole longitudinal top of the press is hinged to the side, and a portion of one side to the bottom. The draft chains pass from the windlass at the head of the machine down the sides of the machine to the follower. The running rope by which the windlass is operated is wound on a fusee drum to give greater power at the end of the stroke.

*Claim.*—First, attaching the draft chains C to the follower B at points inside of the press frame A', the sides of the press box being slotted longitudinally for



the passage of the chains, for the purpose described.

Second, leading the draft chains C, when placed within the press box over the sheaves C', and obliquely to or nearly to the center of the windlass shaft D, in the manner and for the purpose described.

Third, the locking device applied to the top covers F and G and side door I, composed of the lever H, hinged loop  $h^1$  and staple or hook  $h^2$ , substantially as described.

**70,721.**—EDWARD HOWARD, Redhill, England.—*Preventing Explosion of Lamps.*—November 12, 1867.—The wick tube is extended a considerable distance above the oil receptacle, and has a horizontal circular plate interposed between the flame and the safety holes in the top of the receptacle. The holes discharge outside the chimney holder.

*Claim.*—The application of the long tube A before named, and the substitution for the usual openings of a groove in the collar vase C, so that by no opening can the flame of the lamp reach the gas in the vase.

**70,722.**—S. P. JOHNSON, Portland, Me., assignor to himself and CHARLES B. WHITTEMORE, same place. *Invalid Bedstead.*—November 12, 1867.—The frame is hinged to admit of folding into the form of an invalid chair, and the legs fold up to the rails, so that it can be placed beneath another bedstead, or used for a bed bottom.

*Claim.*—First, the double-swinging lever  $g$ , as and for the purposes set forth.

Second, the arrangement of the folding legs 1 2 3, &c., having the pins on their inner sides, with the folding braces having the longitudinal and transverse slots, as and for the purposes described.

Third, the arrangement and combination of the rod  $k$ , lever  $j$ , ratchet  $n$  and pin  $m$ , as and for the purposes set forth.

**70,723.**—EDWARD G. KINSLEY, Stoughton, Mass.—*Corn Popper.*—November 12, 1867.—The perforated partition acts as a sieve to sift out popped grains from the properly popped portion.

*Claim.*—The corn popper, as made, with the perforated divisional partition B extended across its box A of woven wire, substantially as described and for the purpose as specified.

**70,724.**—WM. H. LAMB, San Francisco, Cal.—*Watch Escapement.*—November 12, 1867.—An impulse is given to the balance wheel at each vibration by passing the teeth of the scape wheel on each side of the balance shaft, there being two scape wheels on the same shaft at different elevations; the smaller acting by teeth on its outer side, and the other by teeth on its inner side upon wheels on different sides of the balance staff. The teeth of the escape wheel are unlocked by a pin on the balance staff coming in contact with the end of the detent lever.

*Claim.*—First, the construction of the escapement for timepieces in such a manner as to pass the teeth upon opposite sides of the balance staff, thereby giving an impulse on both the right and left vibration, substantially as herein described.

Second, unlocking pin  $g$  from the teeth  $n$  of the escape wheel by the liberating pin  $i$  on the balance staff coming in contact with the end of the detent lever  $d$ , substantially as described.

Third, the combination of the wheels D and E, operating on each side of the balance staff by means of the notched rollers  $b$  and  $c$ , or their equivalent, and the liberating pin  $i$ , operating on the end of the detent lever  $d$  and the pin  $g$ , the whole operating as and for the purpose herein specified and described.

**70,725.**—C. H. LEE, Oskaloosa, Iowa.—*Churn.*—November 12, 1867.—The suspended cylindrical churn has bulged ends, and is oscillated longitudinally.

*Claim.*—The churn A, provided with a turret, in combination with a mouth piece B, so constructed as to admit a free circulation of air in the churn, and at the same time prevent the cream from escaping, substantially as herein set forth and described.

**70,726.**—GOODRICH LIGHTFOOT, Elgin, Ill., assignor to himself and JOSEPH B. LIGHTFOOT, same place.—*Blind Fastening.*—November 12, 1867.—

Toggle rods are hinged to the shutters to hold them open when the said rods are horizontally extended, but to allow of their closing when the rods are bent upward.

*Claim.*—The jointed rod L, in combination with hinges  $e$  and  $e'$ , when constructed and operated substantially in the manner and for the purpose specified.

**70,727.**—T. J. LOCKHART and JOSIAH LOCKE, Pittsburg, Pa.—*Lightning Rod Insulator.*—November 12, 1867.—The insulator is attached by a collar to a galvanized iron plate, which is secured to the roof by the same nail as one of the slates.

*Claim.*—The application to lightning rod insulators of the metallic shank E, as herein described, or any other substantially the same, and which will produce the intended effect.

**70,728.**—JAMES K. LOCKWOOD, Alpena, Mich.—*Saw.*—November 12, 1867.—The holes for the dowel pins are elongated radially to allow expansion and contraction in the saw. It has radial slots from the eye, ending in circular holes, to prevent cheeking.

*Claim.*—A circular saw, constructed with more or less slots D upon radial lines from the eye toward the periphery and terminating in holes C, in combination with the oblong holes or slots E, for the purposes substantially as set forth.

**70,729.**—SAMUEL L. LOOMIS, Byron, N. Y.—*Car Coupling.*—November 12, 1867.—The coupling pin is held up by the shoulder near its end, which rests upon the spring. The entering link trips the pin and the spring rests on the end of the link to keep it horizontal.

*Claim.*—First, in a draw head or bumper of a railroad car, a spring constructed and arranged as to serve the purposes of sustaining the pin until the link enters, and holding the link horizontal for the purpose of coupling, substantially as described.

Second, in combination with a spring, constructed and arranged as above, a coupling pin with a shouldered end or point, as and for the purposes set forth.

Third, in combination with a pin having a shoulder near the point a projection or plate H in the bumper or draw head.

**70,730.**—CHARLES W. MARSH and WILLIAM W. MARSH, Shabbona, Ill.—*Harvester.*—November 12, 1867.—The grain falls upon an endless apron and passes to a ribbed elevator apron, which carries up the grain and presents it to the binders.

*Claim.*—First, the arrangement of the several pulleys C E and G with tightening or adjustable pulley D, so that drive belt H may give motion to both drums K and L of band of rakes M and revolving platform N, substantially as and for the purpose described.

Second, the adjustable pulley D on slide  $d$ , working in groove in plate  $f$  as described.

Third, the adjustable frame A, when used in connection with the tightening or adjustable pulley D, substantially as and for the purpose specified.

**70,731.**—HENRY McCAN, Hanover, Ohio.—*Railroad Track.*—November 12, 1867.—The tread rail is attached to the base rail by a tongue, upon the latter entering a rib upon the base of the former, and secured by transverse bolts.

*Claim.*—The construction and arrangement of the base and tread rails A B, in combination with the chairs and ties D E and adjusting bolts F, in the manner substantially as set forth.

**70,732.**—R. D. MCCREARY, Oil City, Pa.—*Obtaining Motive Power from Petroleum.*—November 12, 1867.—The lighter distillates of petroleum are used by expansion in working an air engine, and afterward exhausted into the furnace for combustion.

*Claim.*—First, the process herein described, of producing motive power from oil without wholly destroying its lubricating or illuminating properties, or its value for refining or for other purposes.

Second, the combined process of partially evaporating oil to obtain motive power without destroying its valuable properties, and using the resultant gases for fuel or illumination after their expansive force has been, or partially so, spent in driving the engine.



**70,733.**—JOHN H. MCGOWAN and THEODORE J. MCGOWAN, Cincinnati, Ohio.—*Pump*.—November 12, 1867.—The water is received in a pipe which is cast with the priming chamber. The pipe passes diametrically across the bottom of said chamber and upward on opposite sides, discharging at such an elevation as to keep both valves submerged, although the supply pipe may run dry.

*Claim.*—A suction pipe coupling E E' in connection with a pump cylinder or cylinders A, so constructed as that, when attached to the pump, it will form a reservoir, which will maintain a constant supply of water, and in which the pump cylinder is partly or wholly submerged, substantially as described and for the purpose specified.

**70,734.**—CHARLES G. MILLER, Cincinnati, Ohio.—*Cowl*.—November 12, 1867.—A metallic continuation of the flue gives support to uprights sustaining a horizontal deflecting plate. The aforesaid is enclosed in a case flush with the outer side of the chimney, but contracts some distance above the deflecting plate to the size of the flue.

*Claim.*—The parts B D E F H I upon the top of a chimney, arranged substantially as described.

**70,735.**—LEWIS MILLER, Akron, Ohio.—*Dropper for Harvesters*.—November 12, 1867.—One end of an elastic apron is connected to the rear of the finger bar and the other end to a roller, which is operated by gears and by a hand lever. The roller rises up with the apron when it is unrolled and causes the apron to form an inclined support for the grain. When a gavel has accumulated the mechanism is reversed and the gavel discharged. A board receives the grain while the apron is discharging.

*Claim.*—First, an apron for holding the falling grain that is wound up and unwound by a travelling roller, and a rack and pinion attachments, substantially as described.

Second, also, in combination with a travelling roller and an apron wound up and unwound by it, a holding bar or board that is thrown into and out of action by the roller, substantially as and for the purpose described.

**70,736.**—WARREN P. MILLER, San Francisco, Cal.—*Fan Blower*.—November 12, 1867.—The fan wheels rotate alternately in opposite directions so as to utilize any rotary motion imparted to the air by the fans on the preceding wheel.

*Claim.*—A blower, consisting of two or more wheels, constructed and operated in manner as described.

**70,737.**—WILLIAM B. MOORE, Winchester, Mo.—*Blacking*.—November 12, 1867.—Composed of gum shellac, gum arabic, extract of logwood, wheat flour paste, molasses, fish oil, tallow, gum guaiacum and water, boiled moderately and the following added while hot: nut gall, muriated tincture of iron, olive oil, and alcohol.

*Claim.*—A blacking and leather preservative, composed of the ingredients hereinbefore named, and compounded in the manner and in the proportions substantially as described.

**70,738.**—JAMES A. MORRELL, Chicago, Ill.—*Machine for Setting up Staves in Barrels*.—November 12, 1867; antedated October 16, 1867.—The upper truss-hoop is supported on bent and hinged hook bars attached to the top of the block. Near the top the staves rest against spring knobs, and at the bottom against an enclosing hoop. When the staves are all placed the hinged hooks are drawn from under the truss hoop and it is drawn downward.

*Claim.*—First, the buttons c provided with the springs c, substantially as and for the purposes specified.

Second, the adjustable truss-hoop supporter D E, constructed and operating substantially as set forth.

Third, the hoop or band C for keeping in place and supporting the lower ends of the staves, substantially as specified.

Fourth, the lock or stop a for holding the truss-hoop supporters in place, substantially as described.

Fifth, the standard or cylinder A, base B, and buttons c, in combination with the truss supports D E

and truss-hoop F, substantially as and for the purposes specified.

**70,739.**—E. F. OLDS, Lyon, Mich.—*Land Roller*.—November 12, 1867.—The two rollers have separate shafts, one end of each of which is journaled in the main frame, supported at each end on spring casters which pass over the blank left between the rollers. The tongue is pivoted to a disk upon an upper portion of the frame, and turns thereon at the ends of the "throughs" in place of turning the whole implement.

*Claim.*—First, hanging the rollers by means of their shafts and gudgeons to a central adjusting frame, so constructed and arranged that said rollers may be weighted more or less on either side by means of said frame, and the rollers rendered self-adjustable to the surface of the ground, as and for the purpose substantially as set forth.

Second, the central adjustable frame E constructed so as to be weighted, in combination with the rollers B, substantially as and for the purpose set forth.

Third, the caster wheels L and springs M in combination with the frame C, and rollers, substantially as and for the purpose set forth.

**70,740.**—B. C. PAINTER, Mechanicsburg, Pa.—*Flask for Casting Tuyeres*.—November 12, 1867.—The flask is made in three sections, the middle one of which has a false bottom inserted through the side. The sectional pattern is placed on a follow board, the central section placed over it, and the sand rammed. The lower section is then placed on top and rammed. The mold is then inverted and the top section placed on. After ramming the top section is removed as also the pattern representing the portion of the tuyere for supply of air when the blast is off. The central section is then raised, leaving the main portion of the pattern projecting from the lower section, from which it is removed. The ferrule is then broken out by pushing in the tube a distance equal to the thickness of the metal required. The tube is secured by the molten metal flowing around its ends.

*Claim.*—First, in combination with the sections A B of the flask, the partitions I K and false or removable bottom D, arranged as and for the purpose described.

Second, also, in combination with the previously made tube G, the ferrule c, and slide F in the section B, for the purpose of molding in the tube and removing the finished casting from the flask, substantially as described.

**70,741.**—WILLIAM G. PIKE, Philadelphia, Pa.—*Lightning Conductor*.—November 12, 1867.—Explained by the claims.

*Claim.*—First, a lightning conductor consisting of a cylindrical or flattened tube or gasket of woven, braided, or plated wire, terminated at its upper end by a solid point, substantially as shown and described.

Second, the angular rod e for connecting separate branches of the tubular conductor, constructed substantially as set forth.

Third, the combination of the wire tube a, solid point b, inserted rod c, and insulators d, arranged and constructed in the manner and for the purpose substantially as set forth.

**70,742.**—LEMAN B. PITCHER, Salina, N. Y.—*Mixing and Drying Cylinder*.—November 12, 1867.—The hopper end of the cylinder journal is supported on an arm which is fixed to the frame and bent so as not to interfere with the passage of matter through the hopper. The "cylinder" is slightly tapering and has an annular head with an opening for the hopper chute. The inside of the cylinder is armed with pins and ribs to mix mortar, &c.

*Claim.*—The crooked arm A, the head B with the feeding hole b therein, each separately and in combination with each other, and each also in combination with the cylinder C, made and operated substantially as and for the purpose described.

**70,743.**—GEORGE W. RAWSON, Cambridgeport, Mass., assignor to himself and MICHAEL HITTINGER, Somerville, Mass.—*Steam Engine Cut-off*.—November 12, 1867.—The slide valve has two ports passing through it, an oscillating valve being connected with each of them. An arm from each valve is hinged to



one of two bars, which slide in projections from the slide valve, and the bars are surrounded by helical springs tending to close the ports. To the projections of the slide valve are pivoted spring pawls, which engage notches in the bars. Between the pawls and fixed to a slide rod is a doubly-inclined pawl tripper, whose rod is connected to a governor to trip the pawls and allow the spring to close the valve at any part of the stroke. The valves are opened by the impingement of their bars against studs at the ends of the steam chest, kept open by the pawls and closed by the springs when the pawls are tripped by the inclined cam operated by the governor.

*Claim.*—The combination of the slide valve, the two gates, their openings and mechanisms, substantially as described, for operating such gates in manner as specified.

Also, the said mechanism or combination, substantially as described, for operating the gates of the slide valve through the agency of a governor, and the mechanism for producing the longitudinal movements of the slide valve, such mechanism or combination first mentioned consisting of the tripper *p*, the notched side bars *g g*, the pawls or catches *m m*, the springs *k k*, the arms *f f*, and the studs *r s*, the whole being arranged and applied to the steam chest and the slide valve, substantially in manner and so as to operate as hereinbefore specified.

**70,744.**—GEORGE RIEMER, Fayette, N. Y.—*Harvester*.—November 12, 1867.—The annular flange of the cutter driving wheel has an internal zigzag cam groove, into which the roller armed projection of the cutter enters, and by which it is reciprocated. The cutter passes beneath an anti-friction roller to hold it down to place.

*Claim.*—The combination with the sickle bar *H* and grooved wheel *G*, provided with the rim *a*, and made removable from its shaft, of the friction roller *I*, arranged and operating in the manner and for the purpose herein set forth.

**70,745.**—A. H. ROCKWELL, Harpersville, N. Y.—*Bridle Bit*.—November 12, 1867.—The bit has two joints and slides in rings at the ends of metallic pieces connected to the nose strap.

*Claim.*—First, the mouthpiece *A* when composed of three links *d e* and *e'*, and when combined with the sliding bars *f f'*, and with the rings *g g'*, or their equivalents, all made and operating substantially as herein shown and described.

Second, the bars *f f'*, when made to slide on a flexible mouthpiece, when connected with the nose strap *B*, and when made and operating substantially as and for the purpose herein shown and described.

**70,746.**—ROBERT E. ROGERS and JAMES BLACK, Philadelphia, Pa.—*Steam Generator*.—November 12, 1867.—Modification of their patent January 19, 1864, reissued December 19, 1865. The vertical cylindrical boiler has an enlargement at top from whose lower surface issue water pipes which enter the cylindrical part near the bottom.

*Claim.*—The boiler *A*, having the enlargement *a* formed so as to project at or about a right angle with the body of the boiler, in combination with the circulating tubes *B*, when the upper ends of said tubes are inserted straight into the enlargement *a* and the lower ends of said tubes are bent and inserted into the lower portion of the body of the boiler *A*, substantially as set forth.

**70,747.**—McCULLUM RUSSELL and ALFRED G. BURDICK, Mill Rock, Iowa.—*Hand Corn Planter*.—November 12, 1867.—The seed cavity is adjustable by means of a sliding plate turned down rectangularly at the end. The metallic end of the seed slide forces the corn between the spring plates. The upward movement of the seed slide is limited by a strap.

*Claim.*—First, the plunger *E* provided with a pocket *e*, regulating slide *J*, and metallic end *K*, in combination with the opening in the bottom *D* of the seed chamber, brush *d* and springs or scrapers *B B C C*, substantially as and for the purpose set forth.

Second, the cell or pocket *e*, in combination with the regulating slide *J* and brush *d*, substantially as and for the purpose described.

Third, the combination and arrangement of the

stop *I*, strap *H*, pin *h'*, button *L*, and plunger *E*, substantially as and for the purpose specified.

**70,748.**—D. C. SAGE, Middletown, Conn.—*Butt Hinge*.—November 12, 1867.—A plate of wrought metal has rectangular perforations to receive hooked lugs cast on the inner face of the hinge leaf. The plate is first secured to the door or frame and the hinge leaf attached thereto by the hooks. The hooks on one leaf turn down, on the other, up, so that each secures the other from mis-movement. Steel washers are interposed between the eyes of the hinge.

*Claim.*—First, the attachment of butt hinges to door casings and doors by means of hooks and plates, substantially as described.

Second, the construction of the leaves of hinges with hooks *a a*, or their equivalents, upon them, for being received by perforated plates *B*, substantially as described.

Third, the washers *d* of hardened metal and detached from the pintal of the hinge applied in recesses at the joints of the hinge, substantially in the manner and for the purpose described.

**70,749.**—J. B. SARGEANT, New Haven, Conn.—*Coat and Hat Hook*.—November 12, 1867.—The knobs are secured by a screw or by a rivet formed with the hook.

*Claim.*—A coat and hat hook consisting of the plate *C* and hook or hooks *A* or *B*, or both, on which the knob *D* is secured by a rivet or screw passing there-through, in the manner described.

**70,750.**—J. B. SARGEANT, New Haven, Conn.—*Snap Hook*.—November 12, 1867.—The tongue forms with the hook a circular socket when closed and is held by a spring catch.

*Claim.*—First, the double tongue *D*, in combination with the hook *A*, when constructed so as to operate substantially as described.

Second, the thumb-piece *E*, in combination with the tongue *D* of a snap hook so as to lock and secure the snap when closed.

**70,751.**—AMOS M. SHAFER, Camden, Ohio.—*Saw Set*.—November 12, 1867.—The tool is placed in a socket of the adjustable spring. The saw rest has an inclined lower side and the brackets vary in elevation to suit so that the rest can be moved endways to alter its elevation and the set of the saw, such movement not destroying the horizontality of the upper edge of the rest.

*Claim.*—First, the screw standard *H h* and hand nut *I*, in combination with the spring *F*, constructed and operating substantially as and for the purpose set forth.

Second, preserving the parallelism of sliding rest *P* with the anvil and at the same time changing its relative height with said anvil by sliding the inclined edge of the said rest in brackets *M O Q M' O' Q'*, substantially as described.

**70,752.**—THOMAS SHAW, Philadelphia, Pa.—*Cog Chain*.—November 12, 1867.—The link is cast in a broad piece with a hook at each end to engage the hooks on the contiguous links. One of the hooks has a central web bearing a cog and the other hook is slotted to admit the web.

*Claim.*—The chain link, as constructed, for the purpose specified.

**70,753.**—WILLIAM H. SHEPHERD, College Corner, Ohio.—*Corn Planter*.—November 12, 1867.—The crank axle of the rear wheels operates the seed slides which take seed alternately from each of the two receptacles, the grain dropping through the hinged spout board between them. The spout board is hinged so as to allow of the spouts being raised from the ground when out of action.

*Claim.*—First, the grain dropping frame consisting of the cross-beam *I* and grain slides *J J'*, arranged substantially as shown.

Second, the blocks *O* to indicate the position of the hills, as set forth.

Third, the provision of side beams *F F'*, pin *f*, slot *f'*, and screw *e*, for the purpose stated.

Fourth, the provision for liberating the hinged piece *L'* allowing of the spouts *M* to swing clear of the ground, as stated and for the purpose set forth.



Fifth, the arrangement of the parts *h' h' h''* for the purpose of disconnecting the seeding frame from the crank *G*, as and for the purpose set forth.

**70,754.**—HENRY SHERWOOD, London, England. *Separating Vegetable and Animal Fibers.*—November 12, 1867; patented in Belgium, January 25, 1866.—Explained by the claims.

*Claim.*—First, to disaggregate vegetable fibers or substances by means of their exposure to gaseous sulphuric anhydride, and to anhydrous chlorohydric gas, each used alone or together, or in mixture with other gases not being the elements of water; but not the use of vapors produced by evaporating the sulphuric or muriatic acids of commerce, except the oxygen of the aqueous particles contained in those vapors be first eliminated, or caused to enter into chemical combination with some other element to form an oxide.

Second, in an instrument necessary for making use of gaseous agents, the combination of air-tight rollers *a* and *b*, to receive substances into a cavity filled with an atmosphere of gases, and to deliver them from it, with any known mechanical arrangement applicable to receiving the substances from the ingress rollers and delivering them to the egress rollers, (one of such arrangements being given as an example *e*.) acting substantially, and capable of modification, as described.

Third, to prepare vegetable fibers for paper making and other uses, by submitting them to the action of known agents in closed cisterns containing liquids at a low heat, (under 100° centigrade,) but under pressure of air or of liquids.

**70,755.**—JOHN SMALL, St. Louis, Mo.—*Machine for Tempering Files, &c.*—November 12, 1867.—Improvement on his patent August 15, 1865.—The vessel containing the water has a transparent portion so that the operation can be observed. A hinged apron is applied to one of the clamping jaws to form a support and conveyor for the files before and after tempering. The files are delivered to and removed from the jaws by automatic hook rods. The clamping jaws are moved simultaneously by right and left hand screw rods.

*Claim.*—First, in a machine which is adapted for tempering files or plates and confining them between clamps during the tempering process, constructing the box containing said clamps wholly or partly of glass, substantially as described.

Second, the construction of the grated clamps *D* *D'* with bracing ribs upon their backs, in combination with double-acting screw shafts for moving these clamps, substantially as described.

Third, the arrangement of the clamps *D* *D'*, in inclined planes within a bath or box *A*, and upon double-acting screw shafts *E*, operated and operating substantially as described.

Fourth, the hinged plate or apron *J*, applied to the jaw *D*, in combination with movable hooked rods *g*, substantially as described.

Fifth, the standard *H* provided with pulleys *h h'* upon its upper end, over which ropes or chains pass, which are attached to the hinged apron *J*, and also to the cross-head of hooked rods *g*, substantially as described.

**70,756.**—EDMUND SMITH, JR., Worcester, Mass., assignor to ALBERT GOODSPEED, Hubbardston, Mass.—*Spring Rocking Chair.*—November 12, 1867.—The seat is connected to the stool by diagonal springs.

*Claim.*—In combination with the frame and seat of a chair, the springs *a a' a''*, with their opposite ends fastened respectively towards the front and rear of the chair, all arranged and combined substantially in the manner and for the purposes above set forth and described.

**70,757.**—JAMES T. SMITH and JOHN WALTER, Baltimore, Md.—*Steam Generator.*—November 12, 1867.—The spherical sections are cast with cylindrical extensions to connect with those above and below, and with side pipes through which the binding rods pass. These pipes communicate with the spheres and are large enough to allow water space around the rods. The joints are broken by flat rings which enter a short distance into each connecting pipe. The spheres of the outer course are cast with the wings which are jointed to form an enclosure to the generator and the

wings have passages for the binding bolts, the said passages communicating with the spheres. The spheres have side connection through pipes and the upper one of each vertical series has a screw cap which is removed to allow cleansing.

*Claim.*—First, the interior series of boilers *A*, connected with tubes *n*, and supplied with caps *s* at each end, the whole constructed and operating substantially as set forth.

Second, the mudsills *E*, pipes *II*, in combination with the outside tier of boilers *A*, operating as and for the purpose substantially as herein described.

Third, the goose-neck branch pipes *L*, in combination with the central tier of boilers *A*, constructed as and for the purpose substantially as set forth.

**70,758.**—L. FRANKLIN SMITH, Philadelphia, Pa.—*Low-water Indicator.*—November 12, 1867.—Steam is admitted to the expanding tube when the water falls below a certain level, and the tube, by its expansion, operates on the shorter end of the lever and opens the communication to the whistle.

*Claim.*—First, the arrangement of the water gauge *O*, chambers *P* and *P'*, and three-way cocks *M* and *Q* in relation to the boiler, and with reference to the expanding tube *C*, and fixed rod *G*, substantially as described and for the purposes specified.

Second, the arrangement of the weight *N* with the lever *H* and arm *h*, for closing the valve *K*, substantially as described.

**70,759.**—WILLIAM M. SMITH, West Meridian, Conn., assignor to himself and THE MERIDIAN BRITANNIA CO., same place.—*Casket Handle.*—November 12, 1877.—Depressions are formed in the inside of the lifting plates back of the lower screw hole to receive the loop of the metallic tassel or emblem which is retained by the screw. The object is to enable a single pattern of lifting plate to be used with various devices.

*Claim.*—The, employment of attachments *D*, or their equivalents, having tags *E*, in combination with the depressions formed in the plates *B*, substantially as and for the purpose described.

**70,760.**—HENRY SOGGS, Columbus, Pa.—*Sash Stop.*—November 12, 1867.—The side of the sash has a rack which is engaged by a spur wheel upon a winch shaft in the frame, to operate the sash.

*Claim.*—First, the combination and arrangement of the pinion *E* and winch *F* applied to the jamb, with the rack bar *D'* and friction rollers *f'* applied to the sash, in the manner and for the purpose set forth.

Second, the spring catch *G*, in combination with the winch, and operating in the manner and for the purpose set forth.

**70,761.**—J. H. TAYLOR, New York, N. Y.—*Preventing Decay in Wood.*—November 12, 1867.—The following is placed in a retort; creosote, 5 parts; acetic acid, 15 parts; pyroligneous acid, 25 parts; lamp black, (by measure,) 20 parts; and crude kerosene, 35 parts. Decoction of oak bark is placed in another retort. The wood is first treated to vapor from the tan-bark decoction and afterward to vapor from the other retort. For softer fibrous materials the tan bark treatment may be omitted.

*Claim.*—First, the chemical combination of the above named agents in the manner described, for the purpose of preserving wood and other fibrous materials from decay.

Second, the combination of these potent antiseptics in the form of vapor, acting in accordance with known chemical laws, in the manner and for the purpose described.

**70,762.**—G. L. TEMPLETON, Pierceton, Ind.—*Gate.*—November 12, 1867.—One hinge has free vertical movement and the other has a spiral bar running on an anti-friction roller which raises the gate in opening, and causes it to close by gravitation.

*Claim.*—The cam *H*, made of round wire or similar material, and secured to the inner wing *E*, in combination with the outer slotted wing *F*, roller *I*, gate *A*, and frame *B* having slot *J'*, arranged and operating substantially as and for the purposes set forth.

**70,763.**—ISAAC VARNEY, Kennebunk, Me.—*Carriage Jack.*—November 12, 1867.—The rack bar is



engaged by a spur wheel which is rotated by a pawl and lever and held by a stationary pawl.

*Claim.*—The arrangement and combination of the arm D, toothed slide C, gear *b*, casing *a*, centrally pivoted pawl *e*, and spring pawl *t r*, on the hollow cylinder B, substantially as and for the purposes set forth.

**70,764.**—JOSEPH WAGNER, Newcastle, Pa.—*Well Tube.*—November 12, 1867.—The outer and inner tubes have perforations which are brought into agreement after the tube is inserted, by turning the one upon the other. The inner tube has a screw traversing a horizontal slot in the other.

*Claim.*—First, the perforated stem C of the point *b* encased within the tube A, in combination with the slot *a* and pin *b*, substantially as and for the purpose described.

Second, the combination of the point B, constructed as described, with the perforated stem C, perforated tube A, slot *a*, and pin *b*, substantially as and for the purposes described.

**70,765.**—MICHAEL WAGNER, Cincinnati, Ohio, assignor to himself and HERMAN WITTE, same place.—*Fountain Pen.*—November 12, 1867.—The bristles have an inclosing ring at one end whose projection enters a slot in the semi-cylindrical inclosing plate, which is inserted with them into the pen socket. The said projection insures the withdrawal of the bristles with the plate, when taken out for cleaning.

*Claim.*—The winged bristle socket J K, sheath C D F, scallops E, slot L, stud H, and slot G, combined, arranged, and operating as and for the purpose specified.

**70,766.**—H. WEHDEKING, Edgerton, Ohio.—*Mangle.*—November 12, 1867.—The endless apron runs upon stretching rollers journaled to extensible arms, and passes between the motive and spring roller.

*Claim.*—First, tightening the linen bed and shortening the same by the arrangement of the arms A A A, holes *a a*, and pins *b b b b*, in combination with the stationary arms B B, substantially in the manner as herein described and shown.

Second, the construction and arrangement of the legs or lower part of the mangle, in combination with the rods *i i*, substantially in the manner and for the purpose as herein described and shown.

Third, the arrangement of the wooden spring J, rubber springs I I, rods *i i*, rollers F and H, in combination with the arms A A A A and arms B B and the legs of the mangle, substantially in the manner and for the purpose as herein described and shown.

**70,767.**—Canceled.

**70,768.**—WILLIAM H. WILEY, Fredonia, N. Y.—*Horse Power.*—November 12, 1867.—The axial shaft may be fitted at its lower end with a crank or bevel wheel for communication of reciprocal or rotary motion. The table spindles have different sized pinions to adjust the speed to the various work.

*Claim.*—First, extending the frame of the machine laterally across and beyond the circular track traveled by the horses, and providing the same with slides for the reception of a drag-saw cross-head and with bed pieces for the horizontal shaft pillow blocks, in the manner and for the purposes described.

Second, securing the pinion spindles D to the table C at varying distances from the center thereof, so that different sizes of pinions to gear with cog rim F and spur wheels to gear with pinion *b'* may be used, as and for the purpose set forth.

**70,769.**—E. P. WOODS and D. SHERWOOD, Lowell, Mass., assignors to WOODS, SHERWOOD & Co., same place.—*Egg Stand and Boiler.*—November 12, 1867.—The wire basket has a vertical handle and rings to receive the eggs.

*Claim.*—As a new article of manufacture, an egg stand and boiler, constructed substantially as described and for the purposes specified.

**70,770.**—E. P. WOODS and D. SHERWOOD, Lowell, Mass., assignors to WOODS, SHERWOOD & Co., same place.—*Machine for Making Wire Dish Stands, &c.*—November 12, 1867.—The rotatable truncate-

conical former is grooved and slotted to receive the spiral and radial wires, an adjustable bar holding the bottom wires in place.

*Claim.*—First, the spiral grooved head or former, constructed substantially as described and specified.

Second, the combination of the spiral grooved head or former with the bar G, substantially as described and specified.

Third, the combination with the spiral-grooved head or former of the slots *c c c c*, substantially as described and specified.

**70,771.**—CHARLES L. ZEIDLER, Cincinnati, Ohio.—*Mortising Machines.*—November 12, 1867.—The bell crank operating the chisel bar has a pivoted arm connected by a pitman to the said bar, and this arm

is moved to take the pitman head to or from the points of greatest or least oscillation of the bell crank, so as to regulate the length of stroke. When the treadle is fully depressed it gives the chisel the longest stroke and trips the reversing mechanism of the chisel rod.

*Claim.*—First, the arrangement of continuously vibrated bell crank D, having the arm G and wrist *g*, connected on one side by pitman H to the chisel bar and on the other side to a wrist K, actuated by an obliquely-slotted slide L under control of the operator, constructed and operating substantially as and for the purpose set forth.

Second, the arrangement of fast and loose sleeves Q and R upon the chisel shaft or stem, engaging and releasing pawls or catches S and T, cord U, and pulley V, in combination with the catch or trigger H and tappet *U'*, rack and pinion *v' U'*, and actuating and balancing springs W and N, constructed and operating substantially as and for the purpose set forth.

**70,772.**—ISAAC V. ADAIR, Varick, N. Y., assignor to himself and PETER WYCKOFF, same place.

—*Ditching Machine.*—November 12, 1867.—The digger shoe is adjustable in depth by vertical adjustment of the leading wheel. The earth from the shoe falls on the endless conveyor and is carried to the doubly-inclined transverse chute by which the earth is thrown aside.

*Claim.*—First, the arrangement of the wheels A, axles B, frame C, pulley B', band A', endless chain of buckets U, frame S, adjustable brace bars C' and D', and frame F with each other, substantially as herein shown and described and for the purpose set forth.

Second, the frames F and C, when connected together by the adjustable bar R and draft chain P, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the gage wheel H, straps I and J, lever K, chain L, and lever M with each other and with the frames C and F, substantially as herein shown and described and for the purpose set forth.

**70,773.**—EDWIN ALLEN, Norwich, Conn.—*Printing Press.*—November 12, 1867.—The type cylinder has a flat portion for the form and the pressure cylinder a suitable convex portion to cause an even pressure thereon. The pitch line of the cog gearing agrees with the face of the cylinders. The form-cylinder shaft has friction disks whose inclined edges engage the broad-faced edges of adjustable disks on the inking-roller shaft. This shaft is drawn toward the cylinder by spiral springs, and adjusted in distance thereupon by shifting the broad-faced disks upon their shaft.

*Claim.*—The combination of the adjustable or sliding taper rollers L with inking-roll shaft *k*, hung and controlled essentially as described, and disks K, for operation together, substantially as and for the purpose or purposes herein set forth.

**70,774.**—ERNESTO ANSALDI, Leghorn, Italy.—*Steam Engine.*—November 12, 1867. Patented in Italy September 10, 1866.—Steam from the larger cylinder is exhausted into the smaller one, which is so arranged as to assist the former over its dead centers. The cylinders may be arranged concentrically, or side by side. The outer cylinder in the former case has an annular piston and two piston rods.

*Claim.*—The arrangement of the steam ports, passages, valves, and chests, as described, with the piston of two steam cylinders and their connections, to act in combination with each other, for the purpose



of mutually assisting each other for overcoming the dead points of their strokes when accomplished by the means substantially as described and illustrated in the drawings.

**70,775.**—HOLLAND C. BABCOCK, Cincinnati, Ohio.—*Belt Lacing*.—November 12, 1867.—The entering lace end is armed with a metallic tip, or formed and hardened by pressure and heat.

*Claim.*—The belt lacing provided with a pointed or stiffened tip B or B', a slit C, and secured for packing in a coiled form by tag D or its equivalent, substantially as and for the object stated.

**70,776.**—PETER BAKER, Oakland, Md.—*Car Coupling*.—November 12, 1867.—The coupling pin is hooked at the lower end, so as to prevent uncoupling. The hook is held in proper direction by a pivoted lever at the upper end, which rests in the slot of a plate above the mouth of the drawhead. The drawhead is raised by a screw whose upper end is turned into a crank.

*Claim.*—First, the coupling pin B, provided with the flange *a*, in combination with the hinge E and lever C, when arranged to operate substantially as herein described and for the purpose set forth.

Second, the drawhead A, when arranged to be adjusted vertically in combination with the frame G, substantially as herein described.

**70,777.**—JAMES S. BALDWIN, Newark, N. J.—*Elevator*.—November 12, 1867.—The edge of the platform and floor adjoining have jointed portions which admit of being raised on the interposition of any substance between them, in either ascent or descent of the platform.

*Claim.*—First, the use of the apron B and the apron C, or equivalent yielding edges, substantially as set forth.

Second, the secondary platform F and its apron D.

Third, the balancing of said aprons in the manner set forth.

**70,778.**—HENRY BARBER, Greenfield, Mass.—*Attaching Bolsters to Knives*.—November 12, 1867.—The projections on the attachment plates of the side pieces engage in the tang of the knife.

*Claim.*—Attaching the bolsters upon the tang by means of projections *a a'* and *b b'* upon each side of the bolsters, the projections being clinched on the top and bottom sides of the tang, substantially as and for the purpose shown.

**70,779.**—MORGAN BARNETT and ELI WOOD, Hardinsburg, Ind.—*Cultivator*.—November 12, 1867.—The curved iron standard frames are hinged on the axle so as to swing up thereon by the action of hand levers.

*Claim.*—First, the plow frames formed by the combination of the beams G, standards E, and adjustable brace bars I, with each other, substantially in the manner herein shown and described and for the purpose set forth.

Second, pivoting the beams G upon the forward side of the axle B, by means of the rods or bolts J, and clips K, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the locking keys P with the forward ends of the beams G, and with the rods or bolts J, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the guide frames M with the beams G, and rods or bolts J and N, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of the levers L with the beams G and guide frames M, substantially as herein shown and described and for the purpose set forth.

Sixth, the combination of the graduated stop-lever O with the beams G and guide frames M, substantially as herein shown and described and for the purpose set forth.

**70,780.**—JOHN BAUMGARTNER and LAURENCE ANGSTER, Newark, N. J.—*Ham-slicing Holder*.—November 12, 1867.—The ham is confined between the bottom board and a curved and serrated lever, which is held by a ratchet rack.

*Claim.*—The guard or arm B, the brace F G, the

lever and rack E, operating together in manner substantially as and for the purposes described and set forth.

**70,781.**—ROBERT BAXTER, French Camp, Cal.—*Seeding Machine*.—November 12, 1867.—The pronged agitators are connected to a bar, which is reciprocated by connection with a crank pin of the ground wheel through a bell crank and pitman.

*Claim.*—First, the seed box, constructed as described, and provided with a rod and prongs, so located that a part of the several prongs only is in the box, and that at the front side thereof, as and for the purpose described.

Second, the elbow lever, operated by a pin on the plow wheel, and operating the rod with its prongs, in combination with the said rod, in the manner and for the object set forth.

**70,782.**—JAMES M. BEEBE, Casadaga, N. Y.—*Beehive*.—November 12, 1867.—A rectangular box, without top or bottom, is placed on a board, another board being supported a small distance above the bottom board. A series of frames without any bottom bar are arranged on the upper floor board. The frames are held together by an enclosing wire ring and tightening wedge. A cap box is placed over all.

*Claim.*—The series of frames C C, constructed and bound together as described, when said frames are used within the casing A B, formed, as herein set forth, with honey boxes F F, space C, bottom board I, and openings *e d*, the whole constructed, arranged, and used in the manner and for the purposes set forth.

**70,783.**—JACOB BEHEL and JOHN PERRINE, Rockford, Ill., and JOHN M. BUELL, Ogle county, Ill.—*Horse Shoe*.—November 12, 1867.—The adjustable clips are attached in recesses formed in the hoof.

*Claim.*—First, the movable clips *a<sup>1</sup> a<sup>2</sup>*, when constructed and attached substantially as set forth.

Second, the combination of the movable clips *a<sup>1</sup> a<sup>2</sup>*, and shoe A, having bevelled recesses *x*, to receive the same, substantially as described.

Third, the combination of the movable clips *a<sup>1</sup> a<sup>2</sup>* and the shoe A, constructed with corresponding recesses *x* and projections *c c*, substantially as described.

Fourth, the combination of the movable clips *a<sup>1</sup> a<sup>2</sup>* and shoe A, constructed with stationary clips *y* and projections *c* and *k*, substantially as described.

**70,784.**—E. H. BELLOW, Worcester, Mass.—*Slide Valve for Steam Engines*.—November 12, 1867.—A cap-piece in the steam chest covers part of the upper side of the slide valve, equivalent to that covered from the pressure of steam on its lower side.

*Claim.*—First, a four-post balanced valve E, constructed and operating substantially as and for the purposes set forth.

Second, the combination with the steam chest A, having a projection or flange *c* of the valve E, substantially as set forth.

Third, the combination with valve E of cap H and projections or flanges *c d f f* and ears *e e*, substantially as and for the purposes set forth.

**70,785.**—ALFRED C. BELT, Goresville, Va.—*Cultivator*.—November 12, 1867.—The cultivator teeth are ranged in reversed positions; having their mold boards presented to opposite sides. The mold boards are perforated to pulverize and sift the soil. The coulter is adjusted to the reversed position of the landside.

*Claim.*—First, the reversed arrangement of the alternate teeth of the cultivator, as described.

Second, the cultivator teeth arranged in reversed positions, as described, in combination with the adjustable colter.

Third, the grooved or recessed beam, in combination with the flanged teeth secured thereto, as described.

Fourth, the forward tooth, provided with the perforated sifter mold board, in combination with a following tooth having the reversed arrangement described, for the purpose set forth.

**70,786.**—J. E. BENDIX, New York, N. Y., and M. DIETSCH, Westchester, N. Y.—*Potato Planter*.—



November 12, 1867.—Explained by the claims and illustration.

*Claim.*—First, a carrier wheel C, provided at its circumference with cups or buckets d, in combination with a suitable hopper and tubular seeding stock, substantially as and for the purpose specified.

Second, the lever J and vertical holding post K, arranged and operating in relation with each other, and with the sliding bar G of the covering blade, substantially as and for the purpose specified.

Third, the sliding bearing f, arranged in relation with the shaft which carries the cupped or bucketed carrier wheel or wheels C, and the gearing connecting the said shaft with the driving axle, whereby the movement of the carrier wheel or wheels, with reference to the hopper and seeding stocks, may be stopped without interfering with the progressive motion of the machine, substantially as herein set forth.

**70,787.**—J. S. BIRCH, New York, N. Y.—*Watch Key.*—November 12, 1867.—The capacity of the key is regulated by the clamping nut that travels down the incline of the key shank.

*Claim.*—First, slitting the barrel A of a watch key diagonally, substantially as herein shown and described, and for the purpose set forth.

Second, forming the lower part of the barrel A cone or pyramid shaped—that is to say, decreasing in size toward the shank or stem a', substantially as herein shown and described and for the purpose set forth.

Third, the combination of the sleeve or slide B and nut C, one or both, and whether made in one or two pieces, with the slit barrel A of the watch key, substantially as herein shown and described and for the purpose set forth.

**70,788.**—THOMAS BIRCH, Covington, Ky., and ADAM SOWDEN, Cincinnati, Ohio, assignors to RITTER, HOGAN & SOWDEN, Cincinnati, Ohio.—*Grinding Machine for Circular Saws.*—November 12, 1867.—The saw mandrel is carried on a sliding frame so as to bring all portions of its face in contact with the grindstone, and its rotation is regulated by friction rolls carried on a second frame sliding on the former, so as to keep the rolls at the same distance from the mandrel as the grindstone is operating and insure an equal movement of the surface of the saw against the stone, from its periphery inward.

*Claim.*—First, the provision, in a machine for grinding circular saws, of a pair of driving friction pulleys, adapted to grasp the saw at a shifting point diametrically opposite, or nearly so, to the point of impact of the grindstone, and having a corresponding approach toward and recession from the saw's center in the act of grinding, substantially as and for the purpose set forth.

Second, the arrangement of the saw carriage and driving pulley carriage, caused to automatically advance and recede with unequal velocities in paths parallel to the grindstone's axis, for the purpose explained.

Third, the arrangement of the paired friction driving pulleys Z Z', made to grasp the saw on opposite sides thereof by means of pressing springs b b', and set screws c c', for the purpose set forth.

Fourth, in combination with the said friction driving pulleys and accessories, the arrangement of travelling gearing and shaft Y Y' e e e', and stationary gearing e'', as represented.

**70,789.**—CALVIN BIRD, Dorchester, Mass.—*Barrel Cover.*—November 12, 1867.—The handle is attached to a cylindrical piece let into the lid and both are secured by a transverse cleat.

*Claim.*—The combination of the flush handle with the strengthening cleat and guard plate, substantially as described.

**70,790.**—C. T. BOARDMAN, Pawtucket, R. I.—*Setting Steam Boilers.*—November 12, 1867.—The fore ends of two cylindrical boilers are placed over the furnace and to the rear of their midlength they have communication with a tubular boiler, around which and through whose tubes the caloric current passes.

*Claim.*—In combination with the cylindrical boilers B B, tubular boiler G, and walls A of a setting, the pier H, and horizontal partitions J J, arranged substantially as specified.

**70,791.**—CHARLES BOULAY, Paris, France, assignor to JEAN DAVID SCHNEIDER, same place.—*Galvanic Battery.*—November 12, 1867; patented in France May 25, 1867.—Explained by the claim and illustration.

*Claim.*—Putting each of the electro-motive metals of each element in direct contact with any suitable exciting matters or mixtures of them in the dry or slightly moistened and more or less coarsely pulverized state, which exciting matters or mixtures of them are to act on their respective electro-motive metals, or other electro-motive bodies embedded in them, by attracting moisture from any suitable exciting liquid or solution, from which they are kept separate by a suitable porous partition or a diaphragm, substantially in the manner and for the purposes described and illustrated in the annexed drawings.

**70,792.**—ROBERT BOYD, Evansville, Ind.—*House Ventilator.*—November 12, 1867.—The apertures in the ventilators are regulated by the valve cylinder, whose openings are brought into correspondence as required with the upcast air flue and the distributing tube in the floor, or by a partial rotation constitute the floor tube a means of egress for air which is conducted to the exit chimney flue.

*Claim.*—First, a ventilator so constructed that pure air may pass into the room, and foul or impure air may be passed therefrom, substantially in the manner herein shown and described.

Second, the outer cylinder B, with the openings G H and J, and the frame A, combined and arranged substantially as described.

Third, the inner cylinder C, or its equivalent, arranged and operating substantially as and for the purpose set forth.

**70,793.**—C. B. BOYNTON, St. Paul, Minn.—*Railway Axle Box.*—November 12, 1867.—The pivot bolt of the cover has a washer of india-rubber beneath its head, operating by friction to hold the said cover to any position placed. The cover has an intumed lip along its upper edge, upon which it rests when closed.

*Claim.*—The arrangement and combination of the rubber A, under the washer of bolt B, the inside construction of cover C, also the flange E, fitting on to the shoulders at the top of box B, as herein described and for the purpose set forth.

**70,794.**—MARK J. BRIAR, Oxford, Ind.—*Gate Latch.*—November 12, 1867.—A pin on the gate passes beneath a bent arm pivoted and operating as a drop latch. The arm is connected to a latch-raising lever projecting to both sides of the gate.

*Claim.*—A latch for gates, &c., composed of latch lever I, link piece K, lever handle L, arranged together substantially as and for the purpose described.

**70,795.**—GEORGE BROSIUS, Ranch's Gap, Pa.—*Sash Fastener.*—November 12, 1867.—The descending sash operates on a cam to throw the bolt in the frame which engages the sash. The bolt is thrown back by drawing a cord.

*Claim.*—The combination of the cam lever D, spring E, or its equivalent lever F, arm K, bolt L, and cord G, in the manner and for the purpose substantially as above set forth and described.

**70,796.**—WILLIAM H. BRYANT, Chicago, Ill.—*Apparatus for Drawing Tires from Engine Driving Wheels.*—November 12, 1867.—The frame has a series of arms resting against the wheel and screw hooks operating on the tire.

*Claim.*—The apparatus for drawing tire from wheels, herein described, constructed and operating substantially as herein set forth.

**70,797.**—S. A. BUDD, Cleveland, Ohio.—*Carriage Top Button Hole.*—November 12, 1867.—The washer, by means of its curved edge, holds the rubber from slipping. The rubber is held to the washer by the radial arms that embrace it and pass through and are attached to the curtain.

*Claim.*—The combination of the spring a, washers A D, and disk or cap C, with the curtain, substantially as and for the purpose set forth.



**70,798.**—JOHN BURKE, Sycamore, Ill.—*Harvester*.—November 12, 1867.—To raise or lower the drive-wheel frame, the thumb nut that is screwed over the register is loosened, so that the index of the register will pass over from one notch to another. The dogs are then unlatched and the frame shifted. The pole of the machine is fastened to the front of the main frame and acts as a lever. The frame is squared with the main frame by adjustment on the standard to the proper position to the index of the register in such notch as shall correspond with notches in the plates, and are secured by the thumb nut. The drive-wheel frame to which the gearing is attached is raised or lowered and adjusted at right angles with the main frame.

*Claim.*—First, the combination of slotted plates F F', provided with notches attached to the front end of gear frame A, with standard D, provided with corresponding notches at back end of said gear frame, so that said gear frame may be thus raised or lowered equally at both ends, and parallel with main frame, substantially as set forth.

Second, the combination of slotted plates with ratchet, consisting of plates F F' and dogs G G', substantially as described and for the purpose specified.

Third, the dogs G G', for the purpose specified.

**70,799.**—SAMUEL S. BURT, Marquette, Mich.—*Car Axle*.—November 12, 1867.—The yoke surmounts the wheels, and is secured to the axle boxes by screw bolts.

*Claim.*—The yoke D, in combination with the axle boxes C C, axle B B, and car wheels A A, substantially as and for the purpose described.

**70,800.**—JOHN R. CAMERON, Pittsburg, Pa.—*Air Engine*.—November 12, 1867.—The cylindrical fire box descends into the vacuum chamber, compressing the bellows therein, the air passing up through and around the furnace into the air chamber. The fire box is then raised and the slide valve closed. Communication is then opened between the working cylinder and the vacuum chamber, and the former exhausted into the latter.

*Claim.*—First, the combination of the vacuum chamber A and the hot air chamber C, when constructed and arranged as described.

Second, the fire box B, with its blast pipe d, and the water cistern E, in combination with the vacuum chamber A, constructed and operating substantially as herein set forth.

Third, the inner lining b', for the purpose of forming more rapidly a vacuum in A, and also the bellows D, in combination with the vacuum chamber A, substantially as herein described, for the purposes specified.

**70,801.**—M. M. CASHMAN, Boston, Mass.—*Creeper Robe for Infants*.—November 12, 1867.—The outer part of the robe forms a dress cover, while the inner part turns up and forms a skirt within the nicer clothing.

*Claim.*—Forming a creeper by uniting a skirt A A<sub>i</sub> A<sub>ii</sub> with a wrapper A<sub>iv</sub> A<sub>iii</sub> A<sub>ii</sub>, substantially as shown and for the purpose set forth.

**70,802.**—EDWIN CHAPMAN, Rochester, Minn.—*Rotary Engine*.—November 12, 1867.—The piston is attached to a disk plate, which is attached to the main shaft. The steam enters a steam chamber around the disk plate and through a passage in said plate to a passage in the cylinder, from the center of whose face it issues. The steam is exhausted through the tubular end of the shaft. The abutments are attached to vertical shafts supported by wings, which project from each side of the cylinder and are formed of two plates, each forming recesses into which the abutments swing out for the passage of the piston; the shafts pass through packed joints in the wings, and are actuated by connecting rods and levers operated by a cam on the main shaft.

*Claim.*—First, the arrangement of the steam chamber e, aperture g, and packing r, with reference to the piston D and shaft E, as herein described, for the purpose specified.

Second, the construction of the piston D, provided with the opening for discharging steam into the cylinder, and opening f for exhausting the steam through the shaft, substantially as herein shown and described.

**70,803.**—WILLIAM Z. W. CHAPMAN, New York, N. Y., H. C. GOODSPEED, Plainfield, N. J., and EDWIN REED, Bath, Me.—*Motor for Sewing Machines*.—November 12, 1867.—The sewing mechanism is run by clock work; the speed of running and feed motion may be regulated by parallel conical pulleys whose small ends project in opposite directions.

*Claim.*—A sewing machine motor, in which is a barrel enclosing the coiled spring, the equalizing fly wheel, the train of gears, regulating cone pulleys e e', connected by a band, which is operated by a sliding rack and pinion, all constructed and combined as described and for the purpose set forth.

Also, in combination with the above, the brake apparatus, constructed as described and for the purpose set forth.

Also, in like combination, the arrangement of the cover of the table, provided with an aperture, which, while shut, will expose the arm and plate, and when open will neither disturb the machine nor carry any part thereof with it.

**70,804.**—BENJAMIN F. COOK, Olema, Cal.—*Leveler for Agricultural Implements*.—November 12, 1867.—An inclined-edged wheel is interposed between the bolster and rear axle, and so connected to a windlass that the wheel may be turned and the main frame leveled when on rough ground.

*Claim.*—The application of a wheel F, provided with a rim a, beveled so as to form inclined planes, and interposed between the rear axle and bolster of the machine, substantially as and for the purpose set forth.

Also, the combination of the wheel F and the capstan or winch H, substantially as and for the purpose specified.

Also, the brake e, arranged in relation with the drum d\* of the capstan or winch H, and connected to the lever G\*, when said parts are used in combination with the wheel F, for the purpose set forth.

**70,805.**—GEORGE COOK, Paris, Ill.—*Roofing*.—November 12, 1867.—The tiles have tapering, dove-tailed, upward flanges at the edges, which are notched on the upper side to receive the cross bar of the engaging hooks. These flanges are enclosed by caps, which are tightened by sliding downward. The upper ends of the caps enter cavities in the under side of the tiles of the next course above.

*Claim.*—First, a tile B, of earthenware, stoneware, or other suitable material, having the parts D E F G H, substantially as shown and described.

Second, in combination with the tile B, the cap G, having a groove g, as and for the purpose set forth.

Third, in combination with the tile B, the hasp C e e', as and for the purpose stated.

Fourth, in combination with the elements D E F H, the bead I and grooved comb J, for the different sides of the roof peak, as and for the purpose set forth.

**70,806.**—JACOB CORNWELL, Kalamazoo, Mich.—*Silent Bolt Feeder*.—November 12, 1867.—The flour is stirred and forwarded by the rotating scraper to the discharge chute communicating with the bolt.

*Claim.*—First, the revolving platform m, provided with scraper f, in combination with the revolving platform n, substantially in the manner set forth.

Second, in combination with the subject-matter of the above, lever L and band s, substantially as described.

**70,807.**—CLEMOIRE F. COSFELDT, Jr., Philadelphia, Pa.—*Low Water Detector*.—November 12, 1867.—The float has a bell crank at its pivoted end, which acts on the valve stem of the steam whistle and causes the same to sound when the water falls too low.

*Claim.*—First, the arrangement within the boiler of the valve seat B, support E, and the independent slotted valve C D, having shank b and rod d, as and for the purpose described.

Second, the regulating screw d, one end protruding through the slot e and the other end resting on the support E, substantially as and for the purpose described.

**70,808.**—E. HALL COVEL, New York, N. Y.—*Clothes Wringer*.—November 12, 1867.—The standards are doubly slotted to allow vertical motion to the roller journals and the journal boxes, which are



on the ends of levers having a spiral spring at the other end, by which the rollers are forced together.

*Claim.*—First, the double-slotted standards A A, in combination with the conical box N and levers H H, substantially as and for the purpose herein recited.

Second, the double bail or semicircular levers H H jointed together and forming thereby a fulcrum for each other, with the boxes N attached thereto, or cast thereon, and having the springs and adjustable nut on the ends, as and for the purpose described.

**70,809.**—WILLIAM F. COZZENS and J. H. JONES, St. Louis, Mo., assignors to themselves and LEOPOLD BOUVIER, same place.—*Air Carbureter.*—November 12, 1867.—The atmospheric air from the induction pipe is forced beneath the liquid in one of a vertical series of trays within a tight vessel. From the first bath the air passes beneath the liquid in a second tray, and so on through the series.

*Claim.*—First, the combination of the condensing or forcing apparatus A with the carbureter B, substantially as set forth.

Second, the combination of the trays B<sup>2</sup> and B<sup>3</sup> and the injection pipes b<sup>5</sup> and apertures b<sup>4</sup>, when arranged as and for the purposes set forth.

**70,810.**—E. J. CRANE, La Porte, Ind.—*Cheese Press.*—November 12, 1867.—The table on which the press tub is placed is on the free end of an oscillating arm and the plunger is upon the end of a shorter arm. The arms are connected together near the midlength of the shorter arm. This connection operates to bring the plunger and table together as they descend, the cheese acting as its own press weight.

*Claim.*—The platform A, the studs B B' and C, the connecting bar E, the levers D D', the pressing stud F and the table G, arranged, combined and operating substantially as shown and described for the purposes herein set forth.

**70,811.**—M. H. CRANE, Cincinnati, Ohio, assignor to CRANE, BREED & Co., same place.—*Sheet-Metal Boxes.*—November 12, 1867.—Explained by the claim and illustration.

*Claim.*—The mode of stiffening and ornamenting vessels made of sheet metal by the use of composite ribs or mouldings of wood and metal, soldered to the exterior or interior surface of the vessel, substantially as set forth.

**70,812.**—WILLIAM G. CREAMER, Brooklyn, N. Y.—*Railroad Car Ventilator.*—November 12, 1867.—The metallic sheet has truncated, ovate openings which are protected by upwardly-opening and inwardly-projecting, spout-shaped, metallic plates.

*Claim.*—The construction and attachment of ventilating plates to the sides of railroad cars, to admit air and exclude rain and cinders, and present a flush surface, substantially as specified.

**70,813.**—A. F. CROSMAN, United States navy.—*Boat Hoisting Apparatus.*—November 12, 1867.—Both of the hoisting ropes are coiled on a single drum so as to insure simultaneous raising of the two ends of the boat. The trip catches are connected to insure simultaneous release of both ends of the boat.

*Claim.*—First, the drums D D upon the shaft E, secured to the side of the vessel between the davits and provided with a rope G passing through the side of the vessel, all arranged as described, whereby the manipulations of the rope G operate the tackle ropes a a simultaneously, as herein shown and described.

Second, the arrangement of the links J K, hooks L, metallic mousings M, hooks N, and vertically sliding bar f, for detaching the boat from the tackle blocks, as herein shown and described.

**70,814.**—ALONZO G. CROSSMAN, Huntingdon, N. Y.—*Stopping and Starting Cars.*—November 12, 1867.—A chain attached to the piston rod of an air-tight cylinder is connected to a bevel wheel engaging two loose pinions on the axle. Either of these pinions can be clutched fast to turn with the axle; in one case to stop the car by withdrawing the piston from the closed end of the cylinder, and in the other case to start the car by the pressure of air on the piston.

*Claim.*—First, the cylinder L and piston K, in combination with the wheels D E and F, and suitable

connections, the whole operating in conjunction with the axle G, substantially as set forth.

Second, the combination with the cylinder L, piston K, and wheels D E and F, of the clutches a and b, substantially as and for the purpose specified.

Third, the combination with the piston K and cylinder L of the rack R, spur wheel S, and crank T, substantially as and for the purpose set forth.

**70,815.**—J. B. CROWLEY, Cincinnati, Ohio, assignor to himself and CHAMBERLIN & Co., same place.—*Faucet for Stove Reservoirs.*—November 12, 1867.

—The reservoir has spouts stopped by a conical valve connected by a vertical stem to a knob extending above the lid, forming a close connection therewith but not preventing the raising of the latter.

*Claim.*—First, the provision, in a stove reservoir, or boiler, of the spout B, having within the reservoir a plug or valve D, whose stem extends and is operated above the top of the reservoir, substantially as and for the purpose set forth.

Second, the arrangement, in a stove reservoir, of the spout B, having within the reservoir the up-turned seat or inlet C, and self-closing valve or plug D, whose stem or handle extends through an orifice e in the reservoir lid, and is confined in lugs or guides G H, substantially as set forth.

**70,816.**—JOHN H. CULP, Quincy, Ohio.—*Corn Harvester.*—November 12, 1867.—The corn passes between two hinged arms, which gather up lodged stalks, and passing under the rotating reel are severed by the serrated, rotating cutter. The stalks fall on the platform and are raked over onto the portion behind the horses. This portion has trap doors, through which the corn drops when sufficient for a shock has accumulated.

*Claim.*—First, the wheels D E F H I I', the shipper G, cutter K and reel L, arranged as described, in combination with the sustaining wheels B and shaft a of a corn cutting machine, as set forth.

Second, the jointed arms c c, in combination with the cutter K and reel L, arranged and operating substantially as and for the purpose set forth.

Third, the combination of the latch O and the trap-falls N N N', in the bed of a corn cutting machine, when arranged and operating substantially in the manner and for the purpose described.

Fourth, the roller P, with its arm i', and the latch m, when combined with the frame and bed of a corn cutting machine, and arranged and operated substantially as and for the purpose set forth.

**70,817.**—J. WARREN CUSTER, Trappe, Pa.—*Ash Sifter.*—November 12, 1867.—The sifter has a hinged sieve and a cover which confines the dust.

*Claim.*—The arrangement of the wire sieve D, having a wire around its circumference, when secured within a circular box A by means of the jaws E E formed in said box, and the spring G, in the manner and for the purposes set forth.

**70,818.**—AMOS CUTLER, East Boston, Mass.—*Sash Supporter and Fastener.*—November 12, 1867.—The lever arms carrying the friction pulleys are connected to the yoke of the set screw, by which the pressure of the rollers against the stile may be regulated.

*Claim.*—The combination of the arms carrying the rollers or wheels, holder F, and thumb screw G, or its equivalent, substantially as and for the purpose described.

**70,819.**—ORLEAN DOWD, Dansville, N. Y., assignor to himself and ISAAH ROWE, same place.—*Gate.*—November 12, 1867.—The upper rail of the gate is extended over the hinge post and has a downwardly-projecting pin entering a central hole in a domed plate capping the post. At the lower part of the post is a circular flange, and upon the upright a segment which is grooved to receive the edge of the flange. The latch has lunate plates notched to engage pins in the latch post, and attached to rectangular frames surrounding the post. It is operated by a spring lever.

*Claim.*—First, the combination of the rail A' with the pin b, and post B' with cap a, and metal plate C with the gate A, having segmental bar D, all con-



structed, arranged, and operating in the manner and for the purposes set forth.

Second, the latches *d' d'*, rod *i*, lever *e*, spring *g*, used in connection with the gate *A* and post *B*, with its pins *x x*, for the purposes set forth.

**70,820.**—JACOB EDSON, Boston, Mass.—*Capstan*.—November 12, 1867.—Explained by the claims and illustration.

*Claim.*—First, constructing the base of two cone-shaped disks or shells, one of which is reversed, so as to give double bearings *B B* and *B' B'*, for the standard or spindle *H*.

Second, the unguent receptacle at the top of the base and surrounding the standard or spindle *H*, made substantially as and for the purpose set forth.

Third, the extending of the fleeting cleats above the joint which separates the head from the body of the capstan, substantially as described and for the purpose set forth.

Fourth, combining with the body of the capstan the head and cap *N*, made in one piece, substantially as and for the purpose set forth.

Fifth, in placing the upper bearing of the capstan in the top of the cap or head *N*, substantially as and for the purpose set forth.

Sixth, the combination of the draining pipes *L L* with the receptacles *K K*, substantially as described and for the purpose set forth.

**70,821.**—DAVID B. ELLIS, Ypsilanti, Mich.—*Wheelbarrow*.—November 12, 1867.—The braces are halved together and run diagonally from the feet to the ends of the forward cross-bar.

*Claim.*—The diagonal brace, bracing and strengthening both the body and legs of the barrow against lateral and perpendicular strain and pressure, substantially as described.

**70,822.**—WILLIAM F. FALLS, Boston, Mass., assignor to IRA STEWARD, Milford, Mass.—*Marble Shooter*.—November 12, 1867.—The mouth is conically shaped to grasp the marble, which is projected by a spring block, retracted by a thumb pin, and tripped by a trigger.

*Claim.*—A marble shooter, having its parts constructed and arranged to operate and adapted to the projection of marbles of varying size, substantially as set forth.

**70,823.**—C. J. FISHER, Waukon, Iowa.—*Door Holder*.—November 12, 1867.—The bumper frame gives bearing to the cam, which is operated by a lever to bring it upon or into a cavity of the floor.

*Claim.*—The combination of the cam lever *E*, frames or plates *B* and *C*, and bumper *F* with each other, substantially as herein shown and described and for the purposes set forth.

**70,824.**—ISAAC FISKE, Worcester, Mass.—*Crook for Musical Instruments*.—November 12, 1867.—The bend is formed of one piece of metal in such manner that there is no joint formed on the extreme convex end. The piece is bent and struck up into form between dies.

*Claim.*—A crook for musical instruments, made of one piece of metal and formed into shape substantially as set forth.

**70,825.**—JAMES S. FLETCHER, South Bend, Ind.—*Work Box*.—November 12, 1867.—The box turns on a pedestal. It has a bottom disk and two concentric vertical rings. The annular space between the rings has vertical pins for the impalement of spools of thread, the ends of the threads issuing through holes in the side. The cover is turned solid and has a disk and central handle.

*Claim.*—A revolving or turning work box with apartments within it for containing sewing articles accessible as set forth, and constructed, as described and represented, out of solid rings *C c*, as set forth and explained.

**70,826.**—GEORGE AUGUSTUS FREDERICK FOWKE, Westminster, England.—*Composition for Coating Ships' Bottoms*.—November 12, 1867.—Composed of pitch, 3 parts; rosin, 1; plumbago, 5; tallow,  $\frac{1}{2}$ ; cement, 1. The mixture is spread on while melted and smoothed with hot irons. The preceding, devoid of

the tallow, is applied in like manner as a second coat. Next take sulphur, 8 parts; plumbago, 5, with cement, and form into plates which are coated with the composition and applied as an outer coat to the ship's side, while both surfaces are softened by heat.

*Claim.*—The composition, in its forms I., II., and III., and in its application and use, as hereinbefore in this specification described, for the purpose of coating the bottoms of iron and wooden ships, floating docks, and other similar structures and submarine works, and thereby preventing them from fouling and the ravages of the worm.

**70,827.**—C. GARDINER, Esperance, N. Y.—*Sleigh Brake*.—November 12, 1867.—The brake dogs are pivoted in a wedge-shaped mortise in one arm of a bell crank, to whose other arm is connected a bar sliding beneath the tongue and operating by holding back on the tongue.

*Claim.*—First, the pawls *G*, their upper ends wedge-shaped and pivoted in the corresponding wedge-shaped mortise in the bent lever *E*, whereby the pawl is permitted to yield to the backward movement of the sleigh, all arranged and constructed as herein set forth for the purpose specified.

Second, the connecting rod *e*, embracing the bar *A'*, and the tongue *A''*, connected by the pin working in the slot in the tongue, its lower part extending to the neck yoke, all constructed and arranged as described, in such a manner that the length of the stroke of the pawl *G* shall be governed by the length of the slot in the tongue, as herein set forth for the purpose specified.

**70,828.**—E. K. GARDNER, Orville, Ohio.—*Rail-road Gate*.—November 12, 1867.—The rails have central longitudinal fins, which are depressed by the passing train and act through bell cranks and levers to slide the two portions of the gate outward. Springs return the parts to position when the train has passed.

*Claim.*—The gates *D D*, levers *m m* and *n n*, arms *i i*, and movable rails *C C*, all combined substantially in the manner and for the purpose set forth.

**70,829.**—SAMUEL GISSINGER, Lawrenceville, Pa.—*Car Coupling*.—November 12, 1867.—The buffers have hooks presenting in different directions by which they engage together. They have slots and pins for engagement of an ordinary link.

*Claim.*—The pivoted buffer *A*, provided with link opening *O*, pin opening *2*, plate *R*, and locking pin *f*, when used in combination with lever *g* and *r*, chain *m*, and springs *n* and *s*, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

**70,830.**—WILLIAM GLEASON, Rochester, N. Y.—*Tool Rest*.—November 12, 1867.—The rest is vertically adjusted by partial rotation of the gauge ring and clamping screw which are screwed together and have screw threads on the rest. The clamping screw has a screw thread engaging the clamping block which is traversed by and has vertical movement in the slide by an eccentric on the clamping shaft.

*Claim.*—First, the employment of the triple screw system, substantially as herein set forth, for the purpose of adjusting vertically the cutting tool of engine lathes without loosening it.

Second, the arrangement of the eccentric clamping shaft *Y*, in connection with the clamping screw *S*, and rest *D*, substantially in the manner herein shown and described and for the purpose set forth.

**70,831.**—E. A. GOODES, Philadelphia, Pa., assignor to himself, E. L. MILLER, and W. H. MORFORD, same place.—*Metamorphoscope*.—November 12, 1867.—The belts have various sections of the figures, as the head, body, and legs, and are of different lengths so as to mismatch the sections as they are revolved.

*Claim.*—First, the combination of two or more endless belts of different lengths, furnished with sections of figures or pictures, substantially as and for the purpose specified.

Second, the combination of the endless belts furnished with sections of figures or pictures, the rollers *A\* a b c*, and the top plate or cover *e*, formed with an opening *f*, substantially as and for the purpose specified.



**70,832.**—NICHOLAS GROEL, Newark, N. J.—*Traveling Bag and Valise*.—November 12, 1867.—Explained by the claim and illustration.

*Claim.*—As an article of manufacture the struck-up metallic corner pieces D, when constructed and applied in the manner described to valises and traveling bags, for the purpose specified.

**70,833.**—J. J. GROSHANS, Buffalo, N. Y.—*Drying Attachment for Paper Ruling Machines*.—November 12, 1867.—The ink is dried, and the sheets are wafted to place by wind from a fan, constructed as stated in the claim.

*Claim.*—First, the application of a revolving fan to paper-ruling machines for the purpose of drying the paper, and causing the same to be discharged smoothly into the box prepared to receive it, substantially as set forth.

Second, the manner of constructing the fan, substantially as shown and described, to wit, having the fan composed of pasteboard, tar-board, or an equivalent material, fitted on pins *c* in the shaft, and retained in position by springs B, substantially as shown and described.

**70,834.**—A. GRUSHUS, St. Paul, Minn.—*Tag Holder*.—November 12, 1867.—November 12, 1867.—The spring wire is crossed, and its ends are sharpened and turned in for attachment to a roll of cloth.

*Claim.*—The tag holder, made substantially as herein described.

**70,835.**—THOMAS J. HALLIGAN, New York, N. Y.—*Treadle for Sewing Machines*.—November 12, 1867; antedated November 1, 1867.—One treadle shaft passes axially through the other one, and the shafts are connected by arms and pitmen to the double throw crank.

*Claim.*—First, the construction and arrangement, substantially as herein described, of the treadle shafts C D with their treadles A B, for operation in unison, and whereby said shafts are made the one to support and protect the other, essentially as herein set forth.

Second, the combination of the treadle shafts C D, arranged as described, with their treadles A B, driving arms or levers E F, pitmen G H, and double-throw crank I of or to the revolving shaft K, substantially as shown and described.

**70,836.**—GRIFFIN B. HALSTED, New York, N. Y.—*Stove-pipe Damper*.—November 12, 1867.—The damper disk has a diametric, angular recess receiving half of the square shaft, and lips holding it therein. The small end of the shaft has a spur to enter one of a spiral series of notches in the friction ring, and is adjustable therein to cause more or less friction on the pipe.

*Claim.*—First, the notched friction ring, in combination with the spurred shaft of the damper, substantially as and for the purpose specified.

Second, the friction ring, constructed with a cam-like surface, whereby the compression of the pipe may be increased by turning the friction ring with reference to the damper shaft, substantially as and for the purpose specified.

Third, the damper B constructed with the angular groove *e* and the lips *f*, arranged in relation with each other, substantially as described, whereby the damper may be readily attached to its spurred shaft, as set forth.

**70,837.**—MARION McDONALD HANNINS, Vandalia, Ill.—*Loom*.—November 12, 1867.—The picker staffs are operated from the lay by a system of rollers and straps. The treadles are operated by radially projecting pins of a roller intermittingly rotated by a ratchet clutch, which is oscillated by connection with the lay.

*Claim.*—First, the combination of the straps C C and rollers D E for operation, substantially as specified to work the pickers by the action of the lay.

Second, the arrangement of the picker levers B B, constructed as described, springs F, or their equivalents, and the lay, substantially as herein set forth.

Third, in combination with the levers B B, the connecting straps G G, rollers *b*, pickers H H, and check straps I I, for operation with each other and the lay, as shown and described.

Fourth, the means, substantially as herein described,

for operating the treadle roller T, consisting of rods J J, lever K, shaft L, spring N, rod O, and clutch and lever Q P, essentially as specified.

**70,838.**—JOHN HARRIGAN, East Boston, Mass.—*Medical Compound*.—November 12, 1867.—For treatment of piles. Composed of sulphur, 1 oz.; cream of tartar, 1 oz.; niter, 15 grains; ipecac, 30 grains; black pepper, 60 grains; mixed in simple sirup, 1 pint.

*Claim.*—The above described medicine, compounded as described and for the purpose set forth.

**70,839.**—F. G. HESSE, San Francisco, Cal.—*Amalgamator*.—November 12, 1867.—The mercury is placed in a close-bottomed cylinder, inclosed by a case having a pendent annulus inside the vertical sides of the cylinder, and having a narrow horizontal passage between it and the cylinder bottom. The upper edge of the cylinder has an intumed flange to prevent the escape of mercury, which rises up the side of the cylinder by centrifugal force. A stream of water and pulp flows downward within the cylinder, and is deflected outward by radial ribs, and passes over the mercury. The gold becomes amalgamated or sinks in the mercury, and the lighter matters are discharged.

*Claim.*—First, the narrow annular amalgamating chamber A, formed by a revolving cylinder D and an inner cylinder, either stationary or revolving with D, constructed for very high speed, and in combination with a hydraulic device to cause a current of water to pass through said chamber, for the purpose substantially as described.

Second, the use of an extra current within the chamber A for the purpose of discharging pulp without interfering with the amalgamating current, substantially as described.

Third, the manner of producing this current by means of a centrifugal head and guide blades, substantially as described.

**70,840.**—W. G. HILLEGASS, Philadelphia, Pa.—*Pencil Holder for Compasses*.—November 12, 1867.—The clamp embraces the compass leg and the pencil, and is tightened by a set screw.

*Claim.*—The removable pencil-holding attachment for carpenters' compasses, the same consisting of the clamp B, made adjustable by a set screw *c*, substantially as and for the purpose herein shown and described.

**70,841.**—JOHN M. HIRLINGER, Red Rock, Pa.—*Steam Engines*.—November 12, 1867.—The slide valve is operated by a piston; the former having a pin projecting through a longitudinal slot in the cylinder, and traversing a groove in the piston. Power is communicated through a triangular, prismatic block attached to the piston and sliding with a steam joint in a side extension of the cylinder.

*Claim.*—Slide H, as constructed, in combination with the slotted cylinder, the bolt or shaft G and the piston B for operating the valve D by means of its pin E, extending into a recess in said piston, in the manner substantially as and for the purposes specified.

**70,842.**—JOHN M. HIRLINGER, Red Rock, Pa.—*Pump*.—November 12, 1867.—The pump has a cylindrical plunger. A slide valve on each side is actuated by a pin, which enters a slot in the plunger. The slot is just so much shorter than the stroke as to give the required throw to the valve.

*Claim.*—The slide valves *a* and *d*, constructed as described, in combination with the stock and piston, arranged as and for the purpose specified.

**70,843.**—S. L. HOCKERT, Chicago, Ill., assignor to himself and JARED THOMPSON Sr., Milwaukee, Wis.—*Menstrual Receiver*.—November 12, 1867.—The receiver has a ring and a sack of india-rubber, and is supported by a wire adjustably attached to a belt.

*Claim.*—The construction and combination of ring *a*, sack *b*, and arm *c*, for the purposes and in the manner substantially as hereinbefore shown.

Also, the combination of ring *a*, sack *b*, arm *c*, and cord *i*, for the purposes and in the manner as hereinbefore set forth, or their equivalent.

Also, a combination of ring *a*, sack *b*, arm *c*, cord *i*, pad *e*, projection *a*, set screw *d*, belt *f f*, and buckle *g*,



for the purpose and in the manner hereinbefore set forth.

**70,844.**—D. CYRUS HOLDRIDGE, Lodi, Wis.—*Tube Well*.—November 12, 1867.—The cylindrical part of the point piece has an outer sleeve enclosing a screen. The lower end of the pump rod is interposed between the screen and a sleeve while driving the tube. When the tube is driven, the pipe is raised some distance, opening a slot on each side of the sleeve for passage of water. The sleeve has a diametric belt passing through the slots, and serving to engage the parts together. A slight turn of the tube when it is raised brings the bolt heads into side cavities and sustains the tube.

*Claim.*—The tubular point B and screw f, in combination with the pipe A, when arranged to operate as described and for the purpose set forth.

**70,845.**—ALFRED HOMFRAY, Witley Lodge, England.—*Machine for Making the links of Cables, &c.*—November, 12, 1867; patented in England, April 8, 1865.—The blank is laid in the furnace so that its ends will attain a welding heat, and its more central parts a red heat. It is then threaded into the link last made, its ends laid on the clamping jaws, and the former being placed in position above it, the link is shaped and welded with one blow.

*Claim.*—First, the sliding shaft or ram, and mandrel which it carries, in combination with the anvil and the jaws for holding the link, and tappets for closing said jaws, substantially as and for the purposes herein shown and described.

Second, the combination with the sliding shaft or ram and its mandrel of the welding ram or hammer and die, arranged and mounted in the frame of the machine, substantially as and for the purposes set forth.

Third, the combination of the mandrel, its shaft, and the welding hammer and die, with the anvil, link-holding jaws, and tappets by which said jaws are closed, substantially as herein shown and specified.

**70,846.**—NELSON HORNADAY, West Elkton, O.—*Door Fastening*.—November 12, 1867.—The door has an upper and under inwardly projecting pivoted catch connected by a bar, and to the middle of the bar is pivoted another catch projecting outward, to operate as a thumb piece to raise the other catches, and to take under a plate in the wall when the door is open.

*Claim.*—The combination of hooks A A C, bar B, with the catches D E O, when the several parts are constructed, arranged, and operating conjointly in the manner and for the purpose specified.

**70,847.**—ROBERT HOWDON, Cincinnati, Ohio, assignor to CRANE, BREED & CO., same place.—*Molding Facing Machine*.—November 12, 1867.—The wooden molding is plated by passage between the pressure molds in connection with a suitable strip of metal.

*Claim.*—First, the construction of the dies of a molding facing machine in two or more adjustable parts, for the purpose set forth.

Second, the arrangement of frame A, movable dies C C' C'', and set screws D, or their equivalents, for the purpose set forth.

Third, the auxiliary die I i in the described combination with the rear die C of a two or more part molding facing apparatus, for the purpose explained.

**70,848.**—ARAH H. HOWE, Brookfield, Vt.—*Self-adjusting Thill*.—November 12, 1867.—The outer bar of the thills is not carried to the rear of the cross-bar, the latter having a bar mortised to it connecting with the thill iron. The inner thills are connected together by a strap, so that when one pair is raised to the horse the other will not rest on the ground.

*Claim.*—First, the independent shafts B B, connected together by the strap C and to axle A by means of the rod a, whereby one of said shafts may be used independent of the other, as specified.

Second, the arrangement of the shafts B B, low-draft whiffle D, rods a a, and connecting straps, in the manner substantially as and for the purposes set forth.

**70,849.**—GEORGE HOWELL, Philadelphia, Pa.—*Machine for Filling Marshes*.—November 12, 1867.

—The open-bottomed boat has an air tight cover to contain air when moving from place to place. When in use, the boat is placed in the bottom of a stream, and the mud worked within it to such a consistence as to flow in pipes to the land to be redeemed. The mud is worked by rotating beaters.

*Claim.*—First, an excavating boat constructed for partial and varied submergence, having the chamber B, pipe G, side plate a, and with or without the inner plates J, substantially as described and for the purpose set forth.

Second, in combination with such a boat, the air-tight reservoirs and pipes connected therewith, substantially as and for the purpose set forth.

Third, in combination with such a boat, the stirrers e, on the shafts F, substantially in the manner described and for the purpose specified.

**70,850.**—WILLIAM HUMANS, Boston, Mass., assignor to himself and CHARLES WILLIAMS, Jr., same place.—*Automatic Dancer*.—November 12, 1867.—The rod supporting the automatic figure is carried downward, and has a weight attached to maintain its perpendicularity. The figure is supported by a grooved roller upon the cord, and appears to step upon it as it moves along.

*Claim.*—First, a jointed figure, balanced as shown, in combination with a pulley wheel c, provided with cranks or arms d, through which motion is imparted to the legs of the figure as the pulley passes over a cord on which it is supported, substantially as described.

Second, the combination of the hinged arm or dent e and cord g, or its equivalent, attached to the arm of the figure, substantially as and for the purpose set forth.

**70,851.**—WILLIAM HUNTER, Detroit, Mich.—*Paddle Wheel*.—November 12, 1867; antedated November 4, 1867.—The floats are inclined backward from a vertical direction, leaving the water vertically.

*Claim.*—A paddle wheel constructed with radial arms B and floats D, which are rigidly attached to the end of one arm, and extending in front thereof, are secured on the opposite edge of the next preceding arm, or to the rim C, in such manner as to form an acute angle at its upper edge, and form a diagonal bracing for the arms, substantially as described.

**70,852.**—JOHN M. HURD, Auburn, N. Y.—*Paper Flour Sack*.—November 12, 1867.—The mouth end of the bag is crimped between ribbed rollers to assist in its contraction for tying.

*Claim.*—First, crimping or softening a strip or band around near the top of the paper flour sack, as and for the purpose specified.

Second, the combination of the plain rolls G H, or their equivalents, with two or more sets of crimping rolls, when all are used for the purpose above specified.

**70,853.**—EZRA HUTSON, Brockport, N. Y.—*Reel and Swift*.—November 12, 1867.—The arbor on which the arms turn is pivoted to the clamp, so as to assume a horizontal or vertical position, and carries a sleeve having a screw turning the click wheel when used as a reel. The arms are confined between two grooved nuts and are extensible.

*Claim.*—First, the sleeve C, in combination with pivoted arm B, substantially as and for the purpose specified.

Second, the combination of plates k k', arms D D, sleeve C, and arm B, as and for the purpose set forth.

Third, spring f, wheel d, sleeve C, and arm B, all combined substantially in the manner and for the purpose described.

**70,854.**—J. B. JACKSON and M. R. JACKSON, Rochester, Iowa.—*Machine for Shrinking Tires*.—November 12, 1867.—The grips are brought down upon the tire by pegs at two points, and the slide carrying one of the grips is moved toward the other one by a screw to contract the tire.

*Claim.*—The stationary jaw C and movable jaw D, in combination with the screw F, gripes G, and keys H, constructed and arranged to operate substantially as and for the purpose set forth.

**70,855.**—ELIZA JANE JEWELL, Brooklyn, N. Y., administratrix of the estate of THEODORE E. JEW-



**ELL.—Yoke for Grain Elevators.**—November 12, 1867.—The head frame of the elevator is vertically adjustable in guides; its lower end entering the hold of the vessel. The belt is passed beneath one pulley of the adjustable frame and over another of the same, so as to allow of vertical movement of the same without affecting the belt.

*Claim.*—First, making the yokes of grain elevators of cast-iron, constructed substantially as and for the purpose herein shown and described.

Second, the adjustable-guide arrangement at the ends of a metal yoke, when consisting of the flanges *c*, plates *e*, gibs or guides *f*, and set screws *g*, all made and operating substantially as described, in combination with the tenons *b* on the uprights of the stationary frame *A*, arranged as described.

**70,856.—MELVIN JINCKS, Dansville, N. Y.—Lamp.**—November 12, 1867.—The extinguisher is pivoted to the wick tube, and has a plate which passes over its top to extinguish the flame.

*Claim.*—The employment of a gas tube, which shall extend from the mouth of the wick tube to the first floor of the shell, for the purpose of retaining and consuming the gas generated in the lamp, when arranged in combination with non-conductor *B*, shell *A*, and extinguisher *E*, as herein set forth and described.

**70,857.—J. C. JORDAN, Watertown, Wis.—Tool for Punching and Shearing.**—November 12, 1867.—The free end of the lever operating the shear and punch has a segmental rack engaged by the pinion attached to the end of a hand lever.

*Claim.*—The combination of the frame *A*, lever *C*, cogged segment *D*, pinion *E*, handle *F*, shears *B* *G*, cam *H*, box *L*, mandrel *I*, punch *M*, and die *f*, all arranged and operating substantially as herein described and represented.

**70,858.—ISRAEL KEPLER, Corry, Pa.—Fire-place.**—November 12, 1867.—The corrugated grate-back is carried up to the throat, making a portion of the front wall of an air-heating chamber. From the top of this chamber the heated air is conveyed to the apartment by a pipe passing through the chimney.

*Claim.*—In connection with the common corrugated grate back, the corrugated extension plate or back *H*, projecting over the fire and continuing up to the throat of the flue, as and for the purpose herein described and represented.

**70,859.—FRANK KETCHAM, Monongahela City, Pa.—Sheep Trough.**—November 12, 1867.—The trough is double and either side may be put into position for use by standing it upon two of the three legs with which each end is furnished.

*Claim.*—The sheep trough, of the form and configuration substantially as and for the purposes herein shown and described.

**70,860.—EDWARD KING, Taunton, Mass.—Door Latch.**—November 12, 1867.—The bolt has a cylindrical, backward extension surrounded by a spiral spring. The bolt is retracted by the handle, and again thrown forward by the spiral spring upon its release.

*Claim.*—The combination of the hub *F* to knob spindle, having extension arm *H*, in combination with a latch bolt carrying pawl *I*, when all arranged together for operation substantially as and for the purpose described.

**70,861.—BRAINERD KINGSLEY, Sharon, Mich.—Sheep Shears.**—November 12, 1867.—The lower bar carrying the fingers is clamped to the arm by the segmental, metallic bands and leather straps, and the cutter bar is reciprocated by a handle.

*Claim.*—First, the bands *G* *G* and handle *I*, arranged to hold and operate cutters *J*, substantially as set forth.

Second, the combination of cutters *J* *J* and *m* *m* *m* with levers *B* *C*, bar *A*, bands *G*, and handle *I*, as set forth.

Third, the plate *E'*, bar *A*, posts *D* and *E*, arranged to support bands *G* *G* and lever *C*, substantially as described.

**70,862.—JAMES KIRKLEY, Chicago, Ill.—Nut-tapping Machine.**—November 12, 1867.—The taps are carried in a series of simultaneously rotating spindles. The spindles are depressed by weighted levers and may each be singly depressed by a treadle connected to the lever. Oil is supplied to the taps from an elevated reservoir and caught in a receiver, from whence it is pumped back into the reservoir.

*Claim.*—First, the arrangement of a gang of die boxes, a gang of taps, a gang of rotating and vertically sliding spindles, in the relation shown to gears, and a shaft *O*, the parts above named being constructed and operated substantially as herein described.

Second, the arrangement of the oil receiver *G*, oil-supply reservoir *F*, pipes *d* *e*, and forcing pump *a*, in combination with the die bed and vertically sliding and rotating spindle-carrying taps, substantially in the manner and for the purpose herein described.

Third, the combination, with the nut-tapping machine, constructed and operating substantially as herein described, of an automatic lubricating and oil-elevating apparatus, constructed and operating substantially as herein described.

Fourth, the arrangement of the levers *R*, weight *W*, links *R'*, treadles *S*, and vertically-sliding and horizontally-rotating spindles, carrying taps *H*, in relation to one another and to the die bed *D*, substantially in the manner and for the purpose described.

**70,863.—A. L. KNIGHT, Baltimore, Md.—Machine for Cutting Paper Stock.**—November 12, 1867.—The reciprocating knife of the cutting shears is actuated by a pitman at each end and is guided in a stout frame to prevent any deviation from its direct course. The feed rollers are operated by a pawl, which is pivoted to a lever raised by a pin on the pitman rod, the lever falling by its own weight.

*Claim.*—First, the combination of the crank shaft *G*, pitman *F* *F*, knife block *H*, guide frame *I*, and knives *i* and *C*, substantially as and for the purpose specified.

Second, the combination of the crank shaft *G*, pitman *F*, having the pin *e*, lever *L*, pawl *p*, ratchet *r*, idle-wheels *O* and *P*, feed rollers *M* *M'* *N* *N'*, and feed table *T*, all constructed and arranged substantially as and for the purpose set forth.

Third, the paper-stock cutting machine above described, consisting of the parts specified in clauses one and two of this claim, combined and arranged together substantially as described, for the purpose of cutting and preparing paper stock.

**70,864.—THOMAS KNOWLES, ROBERT KNOWLES, and SAMUEL KNOWLES, Jersey City, N. J.—Machine for Molding Pulleys.**—November 12, 1867.—The axial post is driven into the sand and has a horizontally adjustable ram thereon which carries a vertically adjustable similar device. The latter holds the pattern segment. The swing of the horizontal arm is regulated by driving gear, which is so adjusted as to insure the proper position of the segment in the series of impressions.

*Claim.*—A machine or apparatus for molding wheels or other work of curvilinear character, having for its elements a pillar or post *A*, horizontally swinging and radially adjustable ram *D*, carrying a vertically adjustable ram or pattern holder *I*, and dividing gear for adjusting the swing of the horizontal ram, substantially as specified.

**70,865.—P. A. LA FRANCE, Elmira, N. Y., assignor to himself and H. R. KENDALL, New York.—Compositors' Copy Holder.**—November 12, 1867.—The platform has lateral movement on the case and has a folding presser with wire fingers to hold the copy, a sliding indicator bar and side extensions.

*Claim.*—First, the board *A*, when provided with the extension *b* and roller *c*, or their equivalents, and with the spring finger-bar *C*, for holding the manuscript, substantially as and for the purpose herein shown and described.

Second, the board *A*, when provided with the extension *e*, or its equivalent, and with the indicating sliding bar *D*, substantially as and for the purpose herein shown and described.

Third, the board *A*, when provided with grooves *h* *h*, or their equivalents, and with slotted plate or plates *E*, or their equivalents, substantially as herein shown and described.



Fourth, the board A, when arranged as described, so that it can be moved laterally on the type case B, and when provided with the spring finger-bar C, sliding indicator-bar D, and extension bars E, or equivalents, all made and operating substantially as and for the purpose herein shown and described.

**70,866.**—V. LAPHAM, El Paso, Ill.—*Bolt Fastener*.—November 12, 1867.—The holder is bisected and the sides hinged together and held by a spring catch.

*Claim.*—The bolt fastening D, formed by the combination of the hinged parts  $d^1$  and  $d^2$ , pivoted catch  $d^3$ , and rubber spring  $d^4$ , or equivalent, with each other and with the bolt C, substantially as herein shown and described and for the purpose set forth.

**70,867.**—JAMES LEE, New York, N. Y.—*Lamp*.—November 12, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the wooden case B, with the oil reservoir A, substantially as herein shown and described and for the purpose set forth.

Second, the interposition of a wooden connection  $b^2$  between the neck  $a'$  of the oil reservoir A and the cap C, substantially as herein shown and described and for the purpose set forth.

Third, forming air passages D in the neck of the lamp, leading beneath the cap C, from the external air to the interior of the oil reservoir A, substantially as herein shown and described and for the purpose set forth.

Fourth, the adjustable extension pedestal, formed by the combination of the parts F and G, springs  $f'$ , and stop  $g'$ , with each other and with the case B, substantially in the manner herein shown and described and for the purpose set forth.

**70,868.**—ADAM I. LENHART, New Brunswick, N. J.—*Fish Hook*.—November 12, 1867.—The spring hooks are kept extended by a catch on the bait hook and are tripped by movement of the latter to be drawn up close to it and secure the fish.

*Claim.*—The hook B, pivoted to the bar A, provided with the shoulder  $d$ , and having the spring  $d$  bearing against it, in connection with the slide  $c$ , having the spring D attached, and the hook or hooks C, all arranged substantially as and for the purpose set forth.

**70,869.**—W. E. LONDON, Cincinnati, Ohio, assignor to J. A. FAY & Co., same place.—*Shaft Coupling*.—November 12, 1867.—The removable part of the coupling is fixed to its shaft by wedge-formed keys which are inserted beneath it from the outer end and retained by a screw collar.

*Claim.*—A shaft coupling, constructed as herein specified, to wit: one-half keyed on firmly in the usual manner, the other half provided with an adjustable clamping device, as herein specified and for the purposes described.

**70,870.**—J. M. Low, Portlandville, N. Y.—*Horse Rake and Hay Spreader Combined*.—November 12, 1867.—The turning axle of the ground wheels carries a spur wheel, gearing with a pinion on a countershaft, and this shaft has bevel wheels by which the tedder is actuated through intermediate gearing. The countershaft carries an eccentric, whose rod is connected to an arm of the tedder, and by which it is oscillated. The tedder frame is raised when not in use. The rake head is secured by straps to the frame, and has vertical adjustment therein.

*Claim.*—First, the arrangement of the revolving toothed shaft M and its supporting frame K, the axle A, and frame C of the rake, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the gear wheels N and O, shaft P, gear wheels Q and R, one or more shafts S, and the gear wheels T and U with each other, and with the drive wheels B, frame K, and tedder-shaft M, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the toothed reciprocating clearer shaft B' with the revolving toothed tedder-shaft M and with the frame K, substantially as herein shown and described and for the purpose set forth.

Fourth, operating the reciprocating clearer shaft B' from the shaft P by means of the eccentric wheel

E', or its equivalent, and the pitman D', substantially as herein shown and described and for the purpose set forth.

**70,871.**—G. A. MALLORY and J. J. FISU, Oxford, N. Y.—*Quilting Frame and Clothes Drier*.—November 12, 1867.—The frame is extensible longitudinally, and has arms adjustable in inclination and carrying detachable longitudinal bars and a take-up roller, with a ratchet wheel and pawl.

*Claim.*—The adjustable slotted standards A A, cross-rail B, arms C C, and cross-rods  $g g$ , constructed and arranged to serve as a quilting frame and clothes-horse combined, substantially as described.

**70,872.**—C. K. MARSHALL, New Orleans, La.—*Preparing Wood for the Manufacture of Paper, &c.*—November 12, 1867.—Sawdust is reduced by a mill to fine powder, and used as a chief ingredient in paper pulp.

*Claim.*—First, as a new article of manufacture and commerce, wood chips and sawdust, reduced to a fine flour or powder, substantially as described.

Second, the use of the flour, obtained as above described, as an ingredient in the manufacture of paper.

**70,873.**—JABEZ MAUNTON, New York, N. Y., assignor to himself, WRIGHT DURYEA, WILLIAM ENNIS, J. H. VAN RIPER, A. P. CUMMINGS, and J. WENDELL COLE, same place.—*Furnace for Desulphurizing and Reducing Ores*.—November 12, 1867.—The blast passages to both ends of the furnace have outlets side by side, and the mouthpiece of the blast-pipe slides so as to communicate with either passage. The blast is blown alternately through each regenerating and fuel chamber adjoining it and out through the chambers at the other end. In the lower part of each regenerating chamber is a perforated pipe, furnishing jets of water to cool the air and condense any volatilized metallic particles.

*Claim.*—First, the combination, with a reversible draft in or through them, essentially as specified, of the fuel chambers E E, and intermediate reducing chamber F, said chambers being chargeable from above, and communicating with each other at or near the base, substantially as and for the purpose or purposes specified.

Second, the combination with a reversible draft operating as described of regenerators D D, fuel chambers E E, and intermediate reducing chamber F, said fuel and reducing chambers connecting with each other at or near the base, and chargeable from above, essentially as herein set forth.

Third, the vertical regenerators D D, with their draft inlets or outlets  $e$  arranged below, in combination with the fuel chambers E E and intermediate reducing chamber F for action as described.

Fourth, in combination with the vertical regenerators, the spray water pipes K, essentially as and for the purpose specified.

**70,874.**—JABEZ MAUNTON, New York, N. Y., assignor to himself, WRIGHT DURYEA, WILLIAM ENNIS, J. H. VAN RIPER, A. P. CUMMINGS, and J. WENDELL COLE, same place.—*Furnace for Heating Purposes*.—November 12, 1867.—A simplification of the preceding, being used merely for heating purposes, the reducing chamber and condensing device being dispensed with.

*Claim.*—The combination of the fuel chamber C C', arranged to connect for combustion at the base, and regenerators F F', in connection with said chambers at or near their tops, for operation with a reversible draft substantially as specified.

**70,875.**—J. AUDLEY MAXWELL, Savannah, Ga.—*Railway Superstructure*.—November 12, 1867.—String pieces are laid on the cross ties and connected therewith by knees. Beneath the rail joints is a wider cross tie, with an additional piece on top, which gives place of attachment for the chairs.

*Claim.*—In the construction and arrangement of the superstructure of railroads, the combination of the ties A A and B, string pieces C, chair H, and knees K, in the manner and for the purpose herein described.

**70,876.**—WILLIAM MCPHERSON, New York, N. Y.—*Machine for Planing Metals*.—November 12,



1867.—The supplementary tool frame is reciprocated at right angles to the motion of the table, and the tool consequently cuts transversely. The uprights supporting the tool frame have oscillatory adjustment in a longitudinal plane to enable planing inclined faces.

*Claim.*—First, the cross-traversing screw G or its equivalent and driving gear, as herein specified, so arranged to the cross-cutting tool in a planing machine as to operate relatively to the cutting tool A and table W, substantially in the manner and for the purpose herein specified.

Second, in combination with the longitudinal and transverse feeding mechanism of the planer, the adjustable uprights E E, arranged to operate substantially as and for the purposes herein set forth.

Third, the hinged braces 2 and 4 in line with the axis of and in combination with the adjustable inclined uprights E and bed of the planer, substantially as and for the purposes herein specified.

**70,877.**—STEPHEN C. MENDENHALL, Richmond, Ind.—*Hand Looms.*—November 12, 1867.—The belt connecting the hand crank wheel with that of the treadle cam shaft has metallic plates whose eyes are engaged by sprocket pins on the peripheries of the wheels. The batten is reciprocated by connection with a crank pin on the sprocket wheel of the cam shaft. The arbor of the hand crank wheel is adjustable in a slot of its supporting bracket to tighten the belt. The bracket plate may be reversed to change the elevation of the said wheel to suit the operator.

*Claim.*—First, the application to hand looms of the endless metal-eyed belt or metallic chain B b, in combination with the spurred pulleys C and D, the whole being arranged and combined for the purpose of driving the cam shaft A.

Second, the described arrangement of endless metal-eyed belt or metallic chain B b, spurred pulleys C and D, pitman P P, and batten Q.

Third, the described arrangement of the endless metal-eyed belt or metallic chains B b, spurred pulleys C and D, pitman P P, and batten Q, and the crank D', when said crank has such a position on its pulley as to give and time the motions of the batten and the cam shaft, as and for the purposes set forth.

Fourth, the reversible plate S, with its slot u, or its equivalent, for the purposes set forth and described.

**70,878.**—S. T. MERRILL, Beloit, Wis.—*Bleaching Stock for Paper.*—November 12, 1867.—Explained by the claim.

*Claim.*—The introduction into a close-covered rag engine, or other close vessel provided with an agitator, of chlorine gas, or the disengaging of the latter from a chlorine solution contained within the box of the engine or other vessel, for the purpose of bleaching paper stock, substantially as set forth.

**70,879.**—E. METS, Rochester, N. Y., assignor to himself and A. CRAM, same place.—*Slide for Extension Tables.*—The bars are connected by plain metallic strips let into their contiguous sides at varying inclination.

*Claim.*—In combination with the oblique grooves, substantially as herein shown and described, the bent coupling or locking irons h, for the purposes set forth.

**70,880.**—S. MILLER and J. S. McCLELLAN, Champaign county, Ohio.—*Awning.*—November 12, 1867.—The canvas is wound on a roller by the action of a rope which is wound in an opposite direction upon the same. The extended roller is supported on the end of a frame consisting of pivoted bars extensible on the principle of lazy tongs.

*Claim.*—The two rollers B B, in combination with roller F, canvas H, arms G, boards K K, and cord I, constructed and operating as described and for the purposes set forth.

Second, the arranging boards K K so as to form a shelter to roller F, in combination with roller F, canvas H, arms G, boards K K, and cord I, constructed and operating as described and for the purposes set forth.

**70,881.**—JOHN H. MONK, Brooklyn, N. Y.—*Machine for Tempering Skirt Wire.*—November 12, 1867; antedated November 5, 1867.—The wire runs through the bath of melted lead beneath grooved rollers which are vertically adjustable by set screws.

*Claim.*—A pair of grooved rollers, adjusted substantially as specified, in combination with the pot or bath for melted metal, for tempering wire for skirts, &c., in the manner set forth.

**70,882.**—ALLEN NEILSON, Allegheny City, Pa.—*Washing Machine.*—November 12, 1867.—The frusto-conical ribbed rollers oscillate in a frame and act in combination with the washboard, which is made flexible and is straightened up against the rollers by a treadle.

*Claim.*—First, the corrugated conical rollers E, when arranged with level lower surfaces and when secured to a swinging frame C, the axes of which rollers cross each other, substantially as and for the purpose herein shown and described.

Second, the flexible washboard G consisting of laths that are secured together by strings or wires a a operated by a treadle F, substantially as set forth.

Third, the combination of the treadle F, cords a, box H, and flexible board G with each other and with the rollers E, all made and operating substantially as herein shown and described.

**70,883.**—EDWIN NORTON and J. S. B. NORTON, Boston, Mass.—*Dish Washer.*—November 12, 1867.—The dishes are placed in a crib within a vessel containing water and subjected to the action of water agitated by a rotating frame.

*Claim.*—The combination as well as the arrangement of the revolving frame E E' with the crib K K, made substantially as described and for the purpose set forth.

**70,884.**—WILLIAM R. OATLEY, Rochester, N. Y.—*Hook for Travelers.*—November 12, 1867.—A curved and flat-bottomed hook are connected by a swivel so that either can be turned down to suit the article to be suspended.

*Claim.*—The two hooks A B connected by a swivel joint, and constructed and arranged substantially in the manner as and for the purpose set forth.

**70,885.**—HARRISON OGBORN, Richmond, Ind.—*Fanning Mill, Grain and Seed Separator.*—November 12, 1867.—A sliding board is used in place of a hopper, and the flow of grain is regulated by the position given to a swinging board by a hand lever. The screens have either rotary or side motion. The lower screen may have vertical motion. The fan has a circular central position to cause the air to take a direct backward course. The feet of the rear legs are adjustable vertically.

*Claim.*—First, the trough I<sup>3</sup> situated under and at the lower end of the upper grain board, with a removable side i<sup>3</sup>, substantially as and for the purposes described.

Second, the combination of the adjustable trough I<sup>3</sup> with the upper grain board I<sup>1</sup>, forming the bottom of the front part of the shoe I and the adjustable screen J, substantially as and for the purposes described.

Third, the combination of the upper grain board I<sup>1</sup> with the adjustable side i<sup>3</sup> of the trough I<sup>3</sup>, substantially as and for the purposes described.

Fourth, a hopper consisting of the side boards E with converging grooves e, the sliding board F, and adjustable swinging board H, substantially as and for the purposes described.

Fifth, the combination of the swinging board H, lever E provided with a spur or tooth e<sup>1</sup>, and the rack e<sup>2</sup>, substantially as and for the purposes described.

Sixth, the vertical circular rim R secured to the fannings Q, substantially as and for the purposes described.

Seventh, the rod p with its bent part p' and the lever n, substantially as and for the purposes described.

Eighth, the rod p, in combination with the linked rods m and m', wrist v, and wheel V, substantially as and for the purposes described.

Ninth, the belt wheel W pivoted loosely on the pin w and provided with three sets of holes K, K<sup>1</sup> and K<sup>2</sup>, for the purpose of giving either circular, side, or end motion to the shoes, substantially as and for the purposes described.

Tenth, the arm l, rigidly attached to the shoe, by means of which motion is transmitted to the shoe, substantially as and for the purposes described.



Eleventh, the combination of the arm *l* rigidly attached to the shoe, pulleys V W, and belt to give circular motion to the shoe, substantially as and for the purposes described.

Twelfth, the combination of the arm *l*, pulleys V W, and rod *v'*, to give either side or end motion to the shoe, substantially as and for the purposes described.

Thirteenth, the pins *g*<sup>2</sup> on the cleats of the sliding doors G', substantially as and for the purposes described.

**70,886.**—NATHANIEL F. PAGE, Rutland, Vt., assignor to himself and ELIJAH WHITNEY, same place.—*Railway Chair*.—November 12, 1867.—One of the chair lips fits the rails, but the other has a deep groove serving to secure the cap, which is inserted endways and has notches engaging the spikes, by which the chair is attached to the cross tie.

*Claim.*—The combination as well as the arrangement of the cap C with the part A, made with the two lips *a b*, to receive the rail and the cap, substantially as specified.

Also, the arrangement of the recess of the lip *b* at an obtuse angle with the rail-supporting surface of the chair, such chair being provided with two lips *a b* and a cap C, as set forth.

**70,887.**—WILLIAM L. PAINE, Boston, Mass.—*Card Holder for Trunks*.—November 12, 1867.—Metallic straps with inward teeth hold the card.

*Claim.*—The within described card holder for trunks, consisting of the strips or plates B C in combination with points or projections, or their equivalent, for holding the card securely in place, substantially as set forth.

**70,888.**—C. D. PALMITER, Oswego, N. Y., assignor to S. A. WEBB, same place.—*Friction Clutch Pulley*.—November 12, 1867.—The pad is connected to an arm traversed by a set screw, and a wedge attached to the sliding sleeve is driven beneath the point of the set screw to put the clutch in operation.

*Claim.*—First, the device herein shown and described of connecting the pulley B with the shaft A, consisting of a movable wedge *l* and an eccentric pivoted friction pad *j*, which are made and operated substantially in the manner herein shown and described.

Second, the hinged lever D, spring *h*, stationary arm C, and sliding wedge *l* in combination with each other and with the shaft A and pulley B, all made and operating substantially as herein shown and described.

Third, the combination and arrangement of the arm C, having arm *d*, elbow-shaped bar D pivoted thereto, and having the arms *f g* and pad *j*, spring *h*, set screw *i*, wedge *l*, sliding sleeve E, pulley B, and shaft A, as herein described, for the purpose specified.

Fourth, the pad *j*, when attached to the arm D at the point of connection of the arm *f g* and out of line with the axis A *e*, whereby the revolution of the pulley B in one direction clamps the edge of the pad in line with the axis A *e* and increases its bite, and the revolution of the pulley in the opposite direction turns the pad out of the line of said axis and releases its bite, as herein described, for the purpose specified.

**70,889.**—CHARLES A. PARET, Nashville, Tenn.—*Blackening Brush*.—November 12, 1867.—The blackening brush is held beneath an endless elastic strap. A scraper is hinged to the side of the brush and held in the groove by a spring.

*Claim.*—The arrangement of the staples D D, loop E, elastic band E, scraper B, spring C, and groove brush stock A, as herein described for the purpose specified.

**70,890.**—DANIEL E. PARIS, Troy, N. Y.—*Ash Sifter*.—November 12, 1867.—The ash sifter is placed within an ash pan, and can be raised therefrom by the detached bail when the said bail is considerably inclined from the vertical.

*Claim.*—First, a bail to an ash sifter used separately from an ash pan or constructed with hooks or lugs at either end of the bail so as to engage with an ash pan surrounding or inclosing the sifter, and so that both sifter and pan can be moved by the bail or the sifter separately.

Second, a double self-acting lifter to an ash pan or ash sifter so constructed with hooks or other means

of moving the pan or sifter but not attached or attachable to them except while in actual use or in vertical position, as herein described and explained.

**70,891.**—HIRAM PARKS, Athens, N. Y.—*Straw Cutter*.—November 12, 1867.—The teeth of the feed bar engage with the pin on the oscillating lever, by whose motion the bar is intermittently moved forward. A crank on the driving shaft oscillates the lever, which actuates the feed bar during one motion and slips back a tooth during the return motion.

*Claim.*—The notched feed bar K, when provided at its front with teeth in combination with the pin *b* on the oscillating lever I, all made and operating substantially as herein shown and described.

**70,892.**—THOMAS K. PAYSON, New York, N. Y.—*Blacking-box Holder*.—November 12, 1867.—The box is clamped within a ring by a set-screw. The ring has a radially projecting handle.

*Claim.*—The box holder A with its lid carrier B, provided with set-screws *f*, or other equivalent means for securing the box and its lid and setting the same relatively to each other, also facilitating the accommodation of different sized boxes in the one holder, substantially as shown and described.

**70,893.**—STEPHEN PERRY and JOSEPH JOHN PERRY, London, England.—*Ink Stand*.—November 12, 1867.—The ink stand has a funnel-shaped tube and a rubber stopper; the former may be separate or inserted in the stopper, or may be formed with it of the same material.

*Claim.*—First, the employment of a hollow stopper formed of vulcanized india-rubber, or other suitable elastic material, in combination with the reservoir A, tube D, and cup D<sup>1</sup>, for the purpose and substantially in the manner set forth.

Second, the tube D formed with the protuberance D<sup>2</sup> and fitted into the stopper C, for the purpose and substantially in the manner set forth.

Third, forming a stopper, cup, and tube in one piece of hard and soft rubber combined, substantially as described.

**70,894.**—JOHN E. PLUMMER, Binghamton, N. Y.—*Edge Plane*.—November 12, 1867.—A cutter is arranged on each side and one in the center of a stock, which has a handle at each end. One cutter is for trimming the fore part of the sole and the other for that part under the instep.

*Claim.*—The construction and use of a "reversible edge plane," substantially as described and represented for the purpose set forth.

**70,895.**—GEORGE A. PRIDHAM, Newark, N. J.—*Bolt for Doors*.—November 12, 1867.—The bolt slides in a case and has a screw whose end and disk may be made to enter an aperture of the plate to prevent the retraction of the bolt.

*Claim.*—The plate A, as constructed and used in combination with the bolt E provided with screws G and F, as and for the purpose set forth.

**70,896.**—HIRAM PULSE, St. Paul, Ind.—*Grain Drill*.—November 12, 1867.—The hopper has a cylindrical screen with a spiral conveyer through which the grain may be passed. A screw rod passes transversely through the side bars of the frame, the rear sockets of the draw rod and the fore standard, and has set nuts by which their relative position may be altered or maintained. The fore end of the draw bar is laterally adjusted by connection to a bell crank lever connected to a slide rod notched on the under side to engage the cross rod of the handles. The supporting wheels are vertically adjustable.

*Claim.*—First, the upper box or hopper F having the two doors *g g'* and throats H G' for optional discharge of the grain either through the screen or otherwise, as set forth.

Second, the slides O and Q, adjusting lever P, clamp *p*, and slotted bar *p'*, combined and arranged substantially as and for the purposes set forth.

Third, the cross bolt B and nuts 1 2 3 4 5 6 in the described combination with the beams A A', sheaths C C' C'', and draft rod Y, for the purpose specified.

Fourth, the slotted brackets *r* and slotted segmental arcs *r'*, in combination with the rear wheel R and



driving belt or chain S, as and for the purpose specified.

Fifth, the notched spouts D in combination with the valves *n* and winged shares N *n'*, for the purpose described.

Sixth, in the described combination with the screen I and screen chamber F' of my grain drill the removable drawer J, for the purpose specified.

Seventh, the notched rod W *w*, and spring *f*, for the purpose specified.

Eighth, the caster wheel T, slotted bracket U, and bolt V, for supporting the front end of the implement in combination with the adjustable rear wheel R, as and for the purpose set forth.

**70,897.**—JOHN RANCEVAN, Carthage, Ohio.—*Disconnecting Horses from Vehicles.*—November 12, 1867.—The holding pins of the stay straps and the double tree strap are disengaged simultaneously by the pull of a cord in reach of the driver.

*Claim.*—First, the socket C provided with the spring backing *e*, in combination with the bolt *c*, stay strap eye *d*, and cords *l* and G, arranged and constructed substantially as described and for the purpose specified.

Second, the pivoted hammer *f*, guard *f'''*, revolving lever F, spring double tree strap E and double tree D, arranged as described upon the tongue or other desirable part of the vehicle, and operated substantially as described and for the purpose set forth.

**70,898.**—BENJAMIN RANDALL, Adams, N. Y.—*Combined Harrow and Seeder.*—November 12, 1867.—Explained by the claims.

*Claim.*—First, the shaft J in the seed box I, provided with the radial arms *b*, and rotated by means of suitable gears from one of the wheels B, when the same is in combination with the scattering board or plate M, and all arranged substantially as described and for the purpose set forth.

Second, the slide K, perforated with the V-shaped holes *e*, and fitting in the seed box I, in combination with the perforated bottom L of the seed box, which is perforated with circular holes *f*, and the scattering board or plate M, the whole being constructed, arranged, and operating substantially as and for the purpose specified.

Third, the combination of the harrow connected with the truck or mounted frame, and the seed-distributing apparatus applied to said frame, all arranged substantially in the manner as and for the purpose set forth.

**70,899.**—DAVID W. RAWSON, Croydon, N. H.—*Apparatus for Tethering Animals.*—November 12, 1867.—The horse is hitched to the long end of the weighted lever, which is oscillatable in a rotating cap upon the stake.

*Claim.*—The band *m* with the hook or hooks *b* and the flange *d* on the cap *e*, to be applied to any tether in which a cap or socket turning on an upright stake or bar is used.

**70,900.**—THOMAS N. READ, Danville, Va.—*Tobacco Press.*—November 12, 1867.—The tobacco box is held to place by the false sides which are pressed thereto by winch screws. The main screw passes through a pivoted cross head, which has a pivot pin at one end and a lip at the other, taking under a rib of the other side of the shrouding box. The foot of the screw plays in a frustro-conical socket block, which is bisected and is held by a hoop.

*Claim.*—First, the shrouding box A provided with false sides A A, substantially as and for the purpose described.

Second, the hinged cross head C, when combined with the screw E, as and for the purposes and operating in manner substantially as specified.

Third, the truncated conical body G G, in combination with socket *f*, toe *e*, and band H, substantially as and for the purposes above set forth and described.

**70,901.**—O. H. P. ROBINSON, Bellport, N. Y., assignor to himself and JOHN B. ROBINSON, same place.—*Carpenter's Square.*—November 12, 1867.—The slot is made in the square for use in scribing mortises.

*Claim.*—A carpenter's square provided with a slot *a*, in the manner and for the purpose described.

**70,902.**—JOHN J. ROSE, Elmwood, Ill.—*Tool for Cutting, Punching, and Upsetting Iron.*—November 12, 1867.—Improvement on his patent August 1, 1865. The main lever is operated by a cam formed on the hand lever. A beveled projection on the slide extends through the casting so that the slide is moved back by the main lever. The punch is operated by an eccentric formed on the side of the hand lever.

*Claim.*—First, the curved lever F, pivoted in the frame A, in combination with the slide E and lever B, whereby the latter, in its downward movement, presses upon the inner end of the lever F, whose outer end forces the slide inward to upset the iron held by the clamps C D.

Second, the combination of the eccentric L upon the eccentric lever head H, yoke K, and slotted side piece *a*<sup>1</sup> with the plunger J and punch I, as herein described for the purpose specified.

Third, the construction and arrangement of the main lever B, pivoted between side plates *a*<sup>1</sup> *a*<sup>2</sup> at their rear ends, lever F, slide E, clamps C D, and hand lever H, with flange *k'*, as herein shown for the purpose specified.

**70,903.**—CYRUS W. SALADER, Newark, Ohio.—*Door Spring.*—November 12, 1867.—The outer end of the spring arm is connected by a hinged bar to the bracket upon the door, or by a friction roller running beneath a stirrup bar, and may be used either to push or draw the door shut.

*Claim.*—The combination of the box A, mandrel C, spring E, and plates D and K with an arm B and stirrup F, constructed and operating substantially as described and for the purposes set forth.

**70,904.**—J. P. SCOTT, Lewisburg, Pa.—*School Desk and Seat.*—November 12, 1867.—The seat is vertically adjustable and may be folded back to the desk. The desk top is hinged to fold over.

*Claim.*—First, the arrangement of the school desk B, supported on the sliding standards A A, and the seat C hinged to the slide pieces *b b*, and supported by the segment arms *c c*, constructed, combined, and operating as and for the purposes herein described.

Second, the lid *f*, hinged to the desk B, in combination with the folding brackets *g g*, in such manner as to fold on the top or close the hollow receptacle for books in the desk, arranged as herein set forth.

**70,905.**—MORRIS SEIFERTH, Morristown, N. J.—*Apparatus for Punching Metal.*—November 12, 1867.—The punch is stationary and held in an annular piece in the bed by a set screw. The die is reciprocated by a cam. The automatic lifter is raised by a cam on the main shaft and lifts the plate from the punch.

*Claim.*—First, securing the punch C in the bed plate B by means of the holder G and screw *e*, and making it adjustable up and down by means of the screw *b*, substantially as herein shown and described.

Second, the application to the punching machine herein described of the automatic lifter *r*, by which the plate is raised off the punch, substantially as and for the purpose herein shown and described.

Third, the bar *h*, lever *i*, and spring *k*, in combination with the cam *g* on the shaft D, and with the stationary punch C, all made and operating substantially as herein shown and described.

**70,906.**—GEORGE W. SHEARER, Crown Point Centre, N. Y.—*Skate.*—November 12, 1867.—The runner and top are connected together by hinged cross-bars and springs.

*Claim.*—The combination of the levers and springs between the blade and foot-rest of a skate, when arranged and applied thereto, substantially as and for the purpose described.

**70,907.**—LUTHER M. SIMS, Lincoln, Ill.—*Mail Bag.*—November 12, 1867.—The flap passes beneath the guard plate and has a hasp to take over the padlock staple.

*Claim.*—The case C, constructed and used with the bag and its flap *a*, substantially in the manner and for the purpose set forth.

**70,908.**—JOSIAH B. SMALL, Boston Mass.—*Carriage Jack.*—November 12, 1867.—The lifter is raised



by the lever by means of the toggles and the stop comes against the post when the toggle joint is past the center so as to render it self-sustaining.

*Claim.*—Improved carriage jack, as constructed with its notched lifter or slider, arranged with guide posts in manner as described, and as having two toggles and a forked lever and a stop *h* thereof, arranged and combined together, and with one of the posts, in manner as specified.

**70,909.**—DANIEL E. SOMES, Washington, D. C.—*Cooling Air, &c.*—November 12, 1867.—Water is atomized by an ascending blast of air and the saturated and cooled air descending, expels the heated air from the apartments to be cooled.

*Claim.*—First, atomizing liquids by means of a fan blower, substantially as described.

Second, cooling air or liquids, substantially as set forth.

Third, the devices, or their equivalents, substantially as set forth for cooling air and liquids.

**70,910.**—DANIEL E. SOMES, Washington, D. C.—*Elastic Packing for the Joints of Doors, &c.*—November 12, 1867.—Rubber tubes are attached to the door or jamb to render the joint tight when closed.

*Claim.*—First, an elastic tube, having a flange, lug, or plate, or more than one of either, or their equivalents, substantially as herein described and for the purpose set forth.

Second, an elastic tube, prepared by splitting as in Fig. 9, or by making holes *f*, as in Fig. 12, or in any equivalent manner, for the purpose set forth.

**70,911.**—CHARLES SPOFFORD, Boston, Mass., assignor to CHARLES SPOFFORD, WALTER E. HAWES, CHARLES H. and FRANCIS E. HERSEY, same place.—*Car Brake.*—November 12, 1867.—The brakes are operated by eccentric gear, in combination with an arm and levers. The power is taken from the wheel to put on the brake by a friction wheel, which is thrown in contact with it by the brakeman.

*Claim.*—The eccentric gear *M N*, when used with mechanism for operating the brakes of railroad cars, &c., substantially as described.

Also, the friction wheel *T*, in combination with a slotted bar *w* and slipper *7*, for taking the power from the periphery of a car wheel *C* to wind up the brake, substantially as set forth.

**70,912.**—SOLOMON SQUIER and HORACE SQUIER, Monson, Mass.—*Machine for Pressing Bonnets.*—November 12, 1867.—The block is hinged to the table so as to occupy a horizontal position when the bonnet is placed upon it. The presser hood is bisected and supported on a flexible cross-bar. The lower part of each side of the presser is connected by an inclined rod to one of the guide rods, which are allowed a more extended movement than the cross-bar by the flexion of the latter, this excess of movement serving to press the sides together. The presser is operated by treadle and spiral springs.

*Claim.*—First, the combination of the jointed presser *F f*, pressure bars *L*, pressing frame *A C D E*, block *B*, heater *b'*, suspension rod *G*, lip plates *m n*, and supplementary heaters *h h*, as herein described, for the purpose specified.

Second, the block *B*, when attached to the frame *A* by a slide hinge *b*, so that different sized blocks may be used to press hoods of varying proportions by the same machine without changing the jointed presser, as herein set forth.

**70,913.**—ELISHA STERLING, Cleveland, Ohio.—*Fish Hook.*—November 12, 1867.—The head of the minnow is secured to the sliding hook and its tail to the central hook, the outer side hooks serving to catch the fish.

*Claim.*—The combination with the hook *A B*, sliding extension hook *a* and the counter extension hook *b*, constructed substantially in the manner and for the purpose set forth.

**70,914.**—WM. C. STILES, Nevada City, Cal.—*Gold Separator.*—November 12, 1867.—The table is vibrated by a rotating cam, and has a series of openings, screens, and counter-inclines arranged along its surface, and operating in connection with gentle streams of water fed from different points above it.

*Claim.*—First, the arrangement of the openings *o o*, protected by screens *s s* and ledges *i i*, upon an inclined vibrating table *T*, having a series of transverse ledges *l l*, for the purpose of separating the gold dust from dirt, substantially in the manner described.

Second, the combination and arrangement of a series of foraminated water troughs *w w*, with an inclined vibrating table *T*, having openings *o o* and ledges *l l*, substantially as and for the purpose set forth.

**70,915.**—AMOS STOCKER, Watertown, N. Y.—*Ventilating Device for Boots and Shoes.*—November 12, 1867.—The ventilator has a flange and tubular screw shank, which is held in the "upper" by a perforated screw cap.

*Claim.*—First, the instrument, seen in Figs. 5 and 6, letter *C*, in combination with a boot or shoe.

Second, the extra insole, with its spring or springs, in combination with the valve, as seen in Fig. 6, letter *C*, substantially as described and for the purposes set forth in the specification.

**70,916.**—GILES M. STONE, St. Louis, Mo.—*Grinding Mill.*—November 12, 1867.—The grain is passed between a series of cylinders in pairs. One cylinder in each pair is made adjustable and rotates at a different speed to the other one.

*Claim.*—The adjustable roller *B*, operating in connection with the front edge of the chute *T*, for the purpose of grinding the lumps which pass between the upper rollers before reaching the second rollers, as herein shown and described.

**70,917.**—ORSON W. STOWE, Plantsville, Conn.—*Machine for Flanging and Wiring Metallic Plates.*—November 12, 1867.—The outer circumferential corner of the lower disk is turned out rectangularly, and the other disk has a peripheral flange, which enters the groove and forms an out-turned flange around the edge of the cylinder.

*Claim.*—The combination as well as the arrangement of the adjusting screw bearing *L* with the rocker shaft *K* and the roller shaft *C*, its shoulder *h*, and clamp nut *M*, or their equivalents.

Also, the combination and arrangement of the set nut *T*, the rocker shaft, and the adjusting bearing *L*, applied to the shaft and the case or frame of the machine, substantially as specified.

Also, the application of the front box of the shaft *C* to such shaft and the case or frame *I*, so as to be capable of being moved in one are with the shaft and endwise with such shaft, as described.

Also, the case or frame *I*, as made and applied to the rocker shaft journals and the bearings of the two shafts and so as to encase the gears, substantially as described and represented.

**70,918.**—A. W. TUCKER, Waxahachie, Texas.—*Harvester.*—November 12, 1867.—The finger bar and appendages are supported on a curved beam and adjusted vertically by changing its positions. The finger bar may be raised independently of its supporting beam by a chain and lever.

*Claim.*—Suspending the finger bar and its appendages from a curved beam *D*, pivoted to the rear of the frame of the machine and adjustable in any desired position, as set forth, so as to set the finger bar at any desired height, in combination with the pivoted extension *E'* of the finger bar, and the chain and lever *h*, all being constructed, arranged, and operated in the manner and for the purpose set forth.

**70,919.**—JOHN E. TUCKER, Boston, Mass.—*Faucet.*—November 12, 1867.—The grooved plug has a valve disk, which is depressed with the plug to open the faucet.

*Claim.*—A faucet, composed of pipe *B* with stem *C*, and plug *D* with its grooves *e*, pipes *G* and *A*, and packing ring *E*, all constructed, arranged, and operated in the manner as and for the purposes set forth.

**70,920.**—CHARLES VALKMAR, JR., New York, N. Y., assignor to himself, WM. P. MYERS, and THOMAS HEDDIE, Baltimore, Md.—*Preparing Cloth for Lithographic and other Impressions.*—November 12, 1867.—A mixture of white of egg and oxide of zinc is applied to woven material, which is afterward immersed in boiling water. A sizing of glue is then applied and the material calandered.



*Claim.*—The process for preparing cloth for receiving lithographic, photographic, or other impressions, substantially as described.

**70,921.**—CASPER VETTER, Cincinnati, Ohio, assignor to himself and PETER SCHNEIDER, same place.—*Self-closing Hinge.*—November 12, 1867.—The door has a lifting hinge, which serves both by gravity and a spiral spring within it to return the door to its required position.

*Claim.*—First, the combination with a self-closing door or shutter hinge, operating by gravitation and by a spring, substantially as shown, of the angular or non-circular top or head B and socket K permitting the door when mounted to gravitate to any desired position, as described.

Second, in combination with the spring J, the inclined edges upon collar C, and socket G, having depressions *g g'* and prominences *c c'*, substantially as shown and described.

**70,922.**—A. S. VILLEE, Lancaster, Pa.—*Guide or Clamp for Harness Frames.*—November 12, 1867.—The ends of the heddles have guide clamps to prevent the chafing of the shafts. The strips forming the guard are attached to blocks near the ends and have a central spiral spring forcing the middles out and pinching the ends upon the projecting ends of the heddle.

*Claim.*—The protecting guides, formed of strips A B with blocks or ends C, arranged substantially as shown and described, for the purpose specified.

**70,923.**—T. D. VOORHEES, Easton, Pa.—*Screw Driver.*—November 12, 1867.—The ferrule has a turning, flanged sleeve as a rest for the hand.

*Claim.*—The rotating thimble C with the flange D, when applied to a screw driver, substantially as and for the purpose set forth.

**70,924.**—JOHN WALLACE, Louisville, Ky.—*Grate Combination.*—November 12, 1867.—The bottom of the grate is inclined upward and backward from the front to the semicircular deflecting tile.

*Claim.*—The semicircular tile B and grate A, when the same are constructed and combined substantially as described and for the purpose set forth.

**70,925.**—EDMOND A. WARREN, Brooklyn, N. Y.—*Paper Ruling Machine.*—November 12, 1867.—The paper is held on the cylinder by grippers, and taken from the cylinder to the receptacle by tapes running on rollers.

*Claim.*—First, the rotating cylinder C, provided with shafts D D, having fingers E to grasp the sheets of paper to be ruled in connection with the pen-beam O, provided with pens Q, and all arranged to operate in the manner substantially as and for the purpose set forth.

Second, the adjustable cams N at one end of the cylinder C, in connection with the arm M on the shaft J, provided with fingers K K, for presenting the sheets to the cylinder C, substantially as shown and described.

Third, the adjustable cams T at one end of the cylinder C, in connection with the arm S on shaft P, having the pen-beam O attached, substantially as and for the purpose specified.

Fourth, the chords U U', arranged in relation with the cylinder C, and working respectively over the rollers Z Z' W Y Y' V, to operate substantially in the manner as and for the purpose set forth.

**70,926.**—WINDSOR N. WHITE, Winchendon, Mass.—*Wages Indicator.*—November 12, 1867.—The numbered cylinder turns freely in the cylindrical case, whose longitudinal slot exhibits one row of figures. At the edge of the slot the cylinder is numbered from 1 to 30. The left-hand number on the cylinder gives the sum for any number of days or parts of a day, up to 30.

*Claim.*—The said wages indicator, or combination and arrangement of the cylinder, divided and marked substantially as described, with the slotted case or its equivalent, and the scale applied to such case, as set forth.

**70,927.**—A. S. WHITTEMORE, Willimantic, Conn.—*Chimney.*—November 12, 1867.—The tile chimney

is made in sections and the joints rendered tight by a flat metallic ring. The space between the chimney and inclosing case communicates with the outer air at its lower end, and, by dampers, with the apartments.

*Claim.*—The combination of a tile chimney or flue A with an air pipe C, the latter encompassing the former, and communicating with the external air and the compartments within the building, substantially as and for the purpose specified.

Also, the elastic bands B, fitted in the annular recesses *f*, in the flanges at the ends of the tiles, substantially as and for the purpose set forth.

**70,928.**—DAVID WIGGER, New York, N. Y.—*Axle and Axle Box.*—November 12, 1867.—The outer end of the box is closed, the spindle has a collar upon it with a packing ring on each side. The collar furnishes bearing for the holding nut attached by an outside screw to the box. The spindle has two collars of hardened steel, and the box two rings of the same, which come in contact and take the friction of the journal.

*Claim.*—First, the rings *c d*, fitted within the journal box, in combination with the collars *e f* on the journal A\*, substantially as and for the purpose specified.

Second, the arrangement of the packing rings *a n* within the annular nut C, and in relation with the journal A\*, packing rings *h*, and flange *g*, substantially as and for the purpose specified.

**70,929.**—ALFRED WILKIN, McConnellsville, Ohio.—*Self-setting Game Trap.*—November 12, 1867.—The trap is wound with a key. A draw on the bait hook frees the spring shaft and causes the projection of pointed wires to transfix the animal, and the platform is then thrown up to cast the animal away. A half rotation of the spring shaft brings the devices to their setting position.

*Claim.*—First, the combination of the shaft B, operated by a spring or weight, arms D, short lever E and lever G with each other, for the purpose of setting and tripping the trap, substantially as herein shown and described.

Second, the combination of the quadrant I and spear K with the arms D of the shaft B, substantially as herein shown and described, for the purpose of killing the animal.

Third, the combination of the curved pivoted piece L, connecting rods N, elbow levers O, and hinged platform R with each other and with the arms D of the shaft B, substantially as herein shown and described, for the purpose of throwing the dead animal out of the way.

Fourth, the combination of the lever T and hooks U and V with the elbow levers O and quadrant I, substantially as herein shown and described and for the purpose set forth.

**70,930.**—DAVID WIGGER, New York, N. Y.—*Belt Fastener.*—November 12, 1867.—Hooked plates are riveted to the ends of the belt. The hooks engage, and a bolt prevents lateral slipping.

*Claim.*—First, the plates B B', when firmly secured to the ends of the belt, and when shaped as described, so that they can only be disengaged by moving the ends of the belt aside, substantially as herein set forth.

Second, the plates B and B', when made as set forth, in combination with the bolt *a*, the same being made and operated substantially as and for the purpose herein shown and described.

**70,931.**—MOSES B. WRIGHT, Meriden, Conn.—*Lantern.*—November 12, 1867.—The chimney has a perforated metallic cap.

*Claim.*—The perforated metal cap D, top *a*, chimney C, shell B, and perforated metal band *d*, all combined in the manner substantially as set forth.

**70,932.**—JUSTUS E. ZENDER, New York, N. Y.—*Dice Box.*—November 12, 1867.—Explained by the claims.

*Claim.*—First, as a new article of manufacture, a hand dice box made of metal, substantially as and for the purpose described.

Second, a hand dice box, lined with cloth, or any equivalent material therefor, whether such dice box be made of metal or any other suitable material, substantially as and for the purpose specified.



**70,933.**—M. E. ABBOTT, Bethlehem, Pa.—*Step Ladder.*—November 19, 1867.—The brace and stay-rods slide on the staples so as to allow of folding together or spreading apart of the sides and legs in position for use.

*Claim.*—First, a step ladder with the braces B B' and the stay rods C C' and D D' attached to the ladder A, substantially as described, that is to say, by the pivot joints *d d* and the long staples *a a* and *c c*, as and for the purposes set forth.

Second, in combination with a step ladder, the pivot joints *d d*, and the long staples *a a* and *c c*, or their equivalents, substantially as and for the purposes described.

**70,934.**—ONOFRIO ABRUZZO, New York, N. Y.—*Apparatus for Condensing Air.*—November 19, 1867.—The air vessels are connected by horizontal pipes which enter the upper and lower ends of pump cylinders. The air is pressed from cylinder to cylinder. The pistons and lower horizontal pipes have valves.

*Claim.*—The arrangement of a series of vessels A A' when the same are connected with the cylinders B B', the same being provided with valves C C', and with perforated pistons D D', having valves, substantially as and for the purpose herein shown and described.

**70,935.**—E. R. ADDISON, Wheeling, West Va.—*Lamp Chimney.*—November 19, 1867.—The glass bulb has a metallic cone, connecting to it a trumpet-shaped mica chimney whose lower end extends beneath the top of the bulb, and its upper end above the cone.

*Claim.*—The combination with the glass bulb A of the metallic or mica chimney D, secured by tight joints *a* and *e* to the upper edge of the bulb, substantially as described and represented.

**70,936.**—CHARLES ALDRICH, Marshalltown, Iowa.—*Type Case.*—November 19, 1867.—The sections are all hung to a single vertical pintle and the hinge shanks are so bent as to all fold together.

*Claim.*—A cabinet or case made in sections or parts, hung so as to open and close, and each provided with shelves, substantially as and for the purpose described.

**70,937.**—MASON C. AMES, Hartford, Conn., assignor to himself and JEREMY W. BLISS, same place.—*Joiners' Gauge.*—November 19, 1867.—The bar is slotted for traverse of the clamping screw. The sliding head has a concave, a convex, and two straight sides.

*Claim.*—As a new improved article of manufacture, a carpenter's gauge, composed of the bar A, head B, clamp screw C, and constructed to operate substantially as and for the purpose described.

**70,938.**—WILLIAM A. BAGLEY, Ansonia, Conn.—*Hook for Hold-back Straps.*—November 19, 1867.—The hook is attached to a plate fixed to the thill, and the strap retained by a swinging piece pivoted to the plate.

*Claim.*—A hook for hold-back straps, made in two parts B, and pivoted part C, substantially as described.

**70,939.**—ALBERT R. BAILEY, New Haven, and WILSON W. KNOWLES, Plantsville, Conn.—*Bolt Machine.*—November 19, 1867.—The portion of the bolt forming the square shank is upset, giving it a larger diameter than the screw-threaded portion. The rectangular part of the shank and the head are swaged to the form at one operation.

*Claim.*—First, the fixed jaw O and the sliding jaw O' in combination with the supplemental die Q and die M, all constructed and arranged to operate substantially in the manner as and for the purpose set forth.

Second, the cross-head E, slide J, attached thereto, and independent slide K, arranged substantially as shown, for operating the heading die M, sliding jaw O' and supplemental die Q, as set forth.

**70,940.**—ALONZO E. BAILEY and HORATIO NICHOLS, Middleville, N. Y.—*Harness Buckle.*—No-

vember 19, 1867.—Explained by the claims and illustration.

*Claim.*—First, the trace buckle, constructed as described, consisting of the frame D, with curved forward end, and provided on each side with stop F, which serves as a limit to the forward movement of the sliding clasp E, embracing the frame, as herein set forth for the purpose specified.

Second, in combination with the above, the trace strap B, when provided with the enlarged part H, secured to the frame D by means of the slide E, substantially as described for the purpose specified.

**70,941.**—C. W. BALDWIN, Boston, Mass.—*Elevator.*—November 19, 1867.—The cross bar has at each end a block whose vertical slot slides in a vertical slide bar attached to the side timber. A vertical spring rod has at its upper end a wedge entering the slot. The hoisting rope has side ropes secured to levers which keep the wedges in depressed position. On breaking of the cord the wedges are forced up by the springs and suspend the platform by friction.

*Claim.*—In an elevator or hoisting apparatus, as described, the combination with the elevator carriage and rope, or other device for supporting or suspending the same, of the wedges for preventing the accidental fall of said carriage, under the arrangement and for operation as set forth.

Also, the combination and arrangement with the carriage A and its supporting rope, of the levers H H, ropes *a' a'*, and wedges G G, or their equivalents, substantially in manner and for the purpose as before described.

**70,942.**—ISAAC BENHAM, McLean, N. Y., assignor to himself and ALLEN B. BENHAM, same place.—*Scale.*—November 19, 1867.—The scales are supported on the opposite ends of the beam. The distance of the fulcrum from each of the two scales is inversely in proportion to the object weighed on that scale. It is intended for use in making an addition to some substance of a definite proportion of some other ingredient, as the addition of an ounce of salt to each pound of butter.

*Claim.*—A proportioning scale for ascertaining, in compounds of ingredients in fixed proportion, the quantity of any one ingredient, by the use of any other ingredient as a weight or measure, in the manner and by the device above set forth, as a new article of manufacture.

**70,943.**—HENRY BESCHKEE, Albany, N. Y.—*Apparatus for the Manufacture of Salt.*—November 19, 1867.—At each end of the furnace is a boiling pan, and each boiling pan has a pan supported four feet above it. The sides of the upper pan are connected with the lower one by shutters, so as to confine the steam, when desired, for heating the contents of the upper pan. The steam escapes through a pipe ascending from the bottom of the latter pan. The furnace chimney is in the center, and a narrow transverse pan stands between the boiling pan and the chimney on each side for drying the salt dragged from the boiling pan. Each corner has a furnace, and the flues are made to wind so as to heat all parts.

*Claim.*—The arrangement and combination of the soaking pan K, drying pans D and E with the zigzag flues P and T, when arranged and operating as herein described and for the purposes set forth.

**70,944.**—EDWARD C. BLAKESLEE, Waterbury, Conn.—*Buckle.*—November 19, 1867.—The pivots of the tongue piece are formed of the closely bent connection of its loop and tongues.

*Claim.*—The herein-described buckle in which the tongues B B and loop C are formed in one piece, and so as to form bearings *a a*, which are hinged to the frame in the manner set forth.

**70,945.**—ASA BLOOD, Jr., Independence, Iowa.—*Door Latch.*—November 19, 1867.—The catch head is on the end of a spring, which is adjustable on the standard attached to the wall.

*Claim.*—The adjustable spring C, head E, as arranged, in combination with the arms B, for the purpose and in the manner set forth.

**70,946.**—W. R. BOERNER, Chicago, Ill., assignor to himself and CARL R. BOERNER, same place.—*Wire*



*Work*.—November 19, 1867.—The transverse wires are bent in into close contiguity to the wires on each side alternately, and at the closely approaching places the wires are attached together by a cord, consisting of double wire twists, running longitudinally.

*Claim*.—Wire work to be used for any purpose, when constructed substantially as herein described.

**70,947.**—EDWARD T. BOSTROM, Newman, Ga.—*Paddle Wheel*.—November 19, 1867; antedated November 8, 1867.—The radial arms of the main wheel afford bearings at their ends for freely-turning shafts of secondary wheels, which are intended, by their partial backward rotation during passage through the water, to present the paddles at proper inclination.

*Claim*.—The construction of four buckets C upon the revolving shaft D, arranged upon the ends of the radial revolving arms B, substantially as described for the purpose specified.

**70,948.**—EUGENE BOURSON, Brussels, Belgium.—*Steam Engine*.—November 19, 1867.—Steam is admitted from the boiler to both ends of the cylinder to act as cushions on each side of the piston, and check or stop the movement.

*Claim*.—First, connecting both ends of a steam cylinder by means of a pipe C, having one or more stop cocks *a*, substantially as described, so as to enable the engineer to stop or retard the motion of the piston by conducting steam or water, or both, into the ends of the cylinder, substantially as herein shown and described.

Second, the pipe C, connecting the ends of the cylinder, when provided with the stop cocks *a a*, and when combined with the blow-off pipes *c c*, all made and operating substantially as herein shown and described.

Third, connecting the two cylinders of a locomotive engine with each other by means of a pipe F, whereby steam, water, or both can be conducted into the ends of the cylinders, substantially as and for the purpose herein shown and described.

**70,949.**—G. W. BOYNTON, Auburn, N. Y.—*Child's Toy*.—November 19, 1867.—The image is balanced by the weight, and is propelled on the hollow wheel by the forked push staff.

*Claim*.—The hollow wheel A, loop *h*, weight *g*, and image B, all combined and arranged as and for the purpose set forth.

**70,950.**—CHARLES H. BROOKBANK, Connersville, Ind.—*Head Block for Saw Mills*.—November 19, 1867.—The sliding blocks are traversed by adjusting screw rods. On the outer end of each rod is a loosely-turning wheel having spur gear and a ratchet gear. The latter engages a pawl on the disk secured upon the rod, so as to rotate the adjusting screw when the wheel is turned in one direction. The wheels are rotated by a series of racks on a sliding rod operated by a lever.

*Claim*.—First, the rod E, provided with the adjustable toothed slides *n*, and operated by means of the lever F pivoted to the carriage, and connected to said rod by means of the sliding sleeve *h* and bar *g*, all arranged as described for the purpose specified.

Second, the pins *k k* and sliding sleeve *h*, regulating the stroke of the lever F, whereby the movement of the head block is determined, as herein shown and described.

Third, the pinion *b*, having formed upon its inner side the ratchet wheel *c*, turning loosely upon the screw shaft C, and connected to the wheel *d* by the pawl *e* and spring *f*, as herein described, and operated to move the head block forward by the ratchet bar E, and to withdraw said head block by means of the crank *l*, independent of the ratchet rod, all arranged as described for the purpose specified.

Fourth, the arrangement of the pivoted lever F, connected by the bar *g* and slide *h* to the ratchet rod E, the screw rod C, pinion *b*, ratchet *c*, crank wheel *d*, pawl *g*, spring *f*, and head block D, as herein set forth for the purpose specified.

Fifth, feeding the log to the saw the required distance at one stroke of the lever F through the medium of the ratchet bar E, pinion *b*, ratchet *c*, wheel *d*, and screw rod C, as herein shown and described.

**70,951.**—IRA S. BROWN and C. N. BROWN, Providence, R. I., assignors to themselves and J. MASON GROSS, same place.—*Machine for Grinding Saw Teeth*.—November 19, 1867.—The machine is intended specially for grinding detachable saw teeth. The teeth are clamped to the slide rest, and brought in contact with the rotary cutter. The inclination of the tooth is denoted by an index.

*Claim*.—The combination of the grinding wheel A with an apparatus for holding the saw-tooth or other article to be ground, which apparatus for holding the tooth or other article, consists of the standard E, the hinged frame I I, and the vise F combined therewith, as described, all arranged so as to effect the presentation of the article to be ground to the wheel, substantially as described.

**70,952.**—OTTO BRÜCK, New York, N. Y.—*Fan*.—November 19, 1867.—Explained by the claim and illustration.

*Claim*.—The tubular handle *a*, into which slides the tube *b*, which is adapted to receive the fan *d* in its folded state, in combination with the tube *b*, head *e*, fan *d* and draw strings *f* and *g*, the whole arranged and combined substantially as herein set forth.

**70,953.**—JOHN BURNHAM, La Salle, Ill., assignor to himself and DAVID L. HOUGH, same place.—*Marker for Planting Corn*.—November 19, 1867.—The axle has a marking wheel at each end. A hinged marker frame at the middle may be raised by depression of the stirrups, whose cords are connected to the frame, and pass over sheaves on the axle.

*Claim*.—A two-wheel marker, which is constructed so as to operate substantially in the manner herein described.

**70,954.**—IRVINE CARMAN, Schoolcraft, Mich.—*Horseshoe*.—November 19, 1867.—The shoe has a transverse spring bar supporting a rubber plate to prevent balling.

*Claim*.—First, the spring B fitting into the walls of the shoe, substantially as shown and described.

Second, the combination of the rubber C with the spring B, substantially as shown and described.

**70,955.**—JOHN CASH and JOSEPH CASH, Jr.—Coventry, England.—*Towel*.—November 19, 1867.—The towel is knitted from tape, and has a selvage all around.

*Claim*.—As a new article of manufacture, bath or friction towels, manufactured of tape, substantially as described.

**70,956.**—DAVID CASHWELL, Fayetteville, N. C.—*Apparatus for Distilling Spirits of Turpentine*.—November 19, 1867.—The still has parallel coils of steam pipe beneath perforated diaphragms.

*Claim*.—First, the application of steam to the distillation of spirits of turpentine, as herein described.

Second, the induction steam pipe *a*, the steam-heating coils *b' b'* and the diaphragms *c c*, combined with the still A, the steam generator D and the worm B, arranged and operating substantially as and for the purposes shown and described.

**70,957.**—STEPHEN CHAMBERLIN, Boston, Mass.—*Tip Wagon*.—November 19, 1867.—The rear half-elliptical springs are journaled to the axle and rock over with the wagon box when tilted.

*Claim*.—The combination and arrangement of the body *a*, rocker springs *n*, journals *r* and socket bearings *s* together, and relatively to the spring *l* and front and rear axles, substantially as described.

**70,958.**—ALBERT A. CHITTENDEN, Boston, Mass.—*Ironing Table*.—November 19, 1867.—The skirt board projects from the wall. It is supported by a cleat on the wall, and a diagonal stirrup rod, which is engaged by a cleat on the under side of the board.

*Claim*.—The movable table A, in combination with the rod B and frame C, or their respective equivalents, substantially as and for the purpose described.

**70,959.**—CHARLES COLBY, San Francisco, Cal., assignor to himself and MICHAEL O'NEIL, same place.—*Churn*.—November 19, 1867.—The dasher has radial arms supporting longitudinal strips in near proximity



to the side of the barrel and inner inclined arms, which give a longitudinal motion to the cream.

*Claim.*—The combination and arrangement of the driving shaft B, gears C and E, with gears D and F at the opposite end of the churn, with the dashers H and K, and barrel L, all as described for the purpose set forth.

**70,960.**—ROBERT CONARROE, Camden, Ohio, assignor to himself and HOWARD YOUNG, same place.—*Ditching Machine.*—November 19, 1867.—The frame has at one end a pair of cutters, and at the other a plow. An elevator extends from the plow to a side delivery chute. The plow (or forward) end of the frame has two supporting wheels; the rear is supported on a caster wheel. During a forward movement the axle turns with the wheel, and works the elevator, but during a backward movement the wheels turn freely on the axle, and the elevator is quiescent.

*Claim.*—First, the shovels of the elevating apparatus, the plates *r* of which automatically clean the plates *o*, substantially as set forth.

Second, notches *u* and pins *v*, in combination, when applied to a wheel and axle, substantially as described.

Third, the plow G, trough F, elevating apparatus H *e e h h*, cutters C and lever *w*, when combined and arranged substantially as described.

**70,961.**—JESSE CONVER, Philadelphia, Pa.—*Stove Pipe Drum.*—November 19, 1867.—The calorific current in its ascent first impinges against a conical deflector, and passing around its edge is made to follow a devious course by a series of upwardly convex disks, every alternate one of which stretches across the drum and deflects the air to a central ascending pipe, from which it issues through side openings and passes around the edges of the smaller disks. By opening a damper the current is allowed to pass straight up the central pipe.

*Claim.*—Cylinder *e e*, damper D, holes H H, and H' H', and K K', constructed and combined with plates A A, B B, A' A', B' B', A'' A'', and cone plate B'' B'', in the manner and for the purpose set forth and described.

**70,962.**—A. J. COOK, Guilford, Conn.—*Horse Hay Fork.*—November 19, 1867.—The point is turned up to engage the load by a rod sliding in a slot of the main staff, and connecting the heel of the pivoted point to a bell-crank operating lever near the hoisting ring.

*Claim.*—The combination of the slotted rod A, the bar D, the lever E, and prongs C, when the said bar D extends from the said lever upon one side of the rod, through the rod, to the prong upon the opposite side, substantially as and for the purpose herein set forth.

**70,963.**—WILLIAM COOLEY, Tafton, Wis.—*Gate.*—November 19, 1867.—The hinges allow vertical adjustment of the gate by means of a lever whose end rests on the lower pintle. A vertically sliding post at the latch end engages the gate with the ground in any position.

*Claim.*—First, the lever R, made to rest on the top of hinge G, in combination with sleeve S, gate F H O V C D, and support J, the whole being arranged substantially as set forth and for the purpose described.

Second, the combination of the sliding post K, with gate F H O V C D, hinges G G, lever R, and catch *n*, substantially as herein specified.

**70,964.**—H. M. COOPER, Lindley, Mo.—*Loom.*—November 19, 1867.—All the movements are performed by motion of the lay. The treadles are in sets near each side and are operated by radial cams on a shaft intermittingly rotated by ratchet wheels upon it. These are acted on by pawl levers connected by rods to the lay. The cords operating the shuttle drivers are attached to a block which is swung from side to side by projections on levers which are alternately raised by cams on the treadle operating shaft. The take up motion is automatic.

*Claim.*—First, the combination of the lay C, the treadle-cam shaft H, the treadles G, the cloth beam D, the shuttle driving hand *p*, the levers *r r*, the cams *s s*, the spring bar *w*, and the cross bar *v*, constructed, arranged, and operating as and for the purposes herein described.

Second, the combination and arrangement of the lever *m*, pivoted near its lower end to the frame of the loom, and provided at its upper end with the screw thread by means of which the hinged pawl *k* is raised or lowered, with the connecting rod *n*, sword C', cloth beam D, gear wheels *g, g<sup>1</sup>, g<sup>2</sup>*, and ratchet wheel *h*, as herein described, for the purpose specified.

Third, the arrangement of the pivoted hand *p*, the levers *r r*, the cams *s s*, the spring bar *w*, and the cross bar *v*, combined with the lay C, and the shuttle-drivers *o o*, substantially as and for the purposes described.

Fourth, connecting the shuttle-boxes *t t* with the lay-by hinges, as and for the purposes set forth.

**70,965.**—JOHN M. COOPER, Pittsburg, Pa.—*Core Mold for Casting Globe Valves.*—November 19, 1867.—Parts of the core box are made detachable to admit the lifting out of the core without injury. The length of the core is increased so as to give a bearing at each outer end.

*Claim.*—The core boxes *x* and *x'*, with their respective plugs *g* and *g'*, constructed substantially as hereinbefore described for the purpose of forming cores for casting globe valves with diaphragm valve seat.

**70,966.**—J. E. COWDERY, Wheatland, Iowa, assignor to himself and A. S. BENSON, same place.—*Try Square.*—November 19, 1867.—The pivoted arm of the square has an index finger traversing a scale and denoting the angle.

*Claim.*—The circular rack E, and spring pawl *e*, when combined with a pivoted blade to a try-square, in manner substantially as and for the purposes described.

**70,967.**—WILLIAM W. COX, Carbondale, Ill.—*Washing Machine.*—November 19, 1867.—The endless apron is carried on two rollers and the clothes are fed over it to the corrugated rollers turned by a treadle. The inner apron roller is journaled in sliding blocks and drawn up by spiral springs.

*Claim.*—First, the corrugated roller C, in combination with the roller F, apron G, dovetail blocks *h*, springs *k* and nuts *l*, all made and operating substantially as and for the purpose herein shown and described.

Second, the above, in combination with the treadle E, when the same is made as set forth.

**70,968.**—ZENAS M. CRANE, Dalton, Mass.—*Tool Supporter or Rack.*—November 19, 1867.—The plate is attached to the wall. It has a rectangular projection between which and the adjustable tooth of the gravitating arm the tool is held.

*Claim.*—The combination of the bent lever A, the adjustable tooth *e* and the jaw *g*, applied to the plate B, and arranged substantially as described.

Also, the combination and arrangement of the projection *h*, with the bent lever A, the adjustable tooth *e*, and the jaw *g*, applied to the plate B, and arranged substantially as specified.

**70,969.**—E. W. CRITTENDEN, Pittsburg, Pa.—*Manufacturing Bricks.*—November 19, 1867; antedated November 9, 1867.—The clay passes between fluted rollers beneath the hopper and then through a rotating cylindrical screen, which throws off the stones. From the screen chute it is carried by the elevator to the mold wheel. The clay is subjected to jets of steam at low pressure, in its passage from the screen to the elevator. The presser plungers are forced in by rollers, other rollers acting simultaneously on the plungers forming the inner side of the mold, and which are subsequently actuated by a cam to eject the bricks on to the off-bearing belt.

*Claim.*—First, the fluted or corrugated rollers B B' B'', a rotary screen D, and endless carrier or apron F, arranged substantially as and for the purpose set forth.

Second, the tempering or moistening of the pulverized clay by jets of low-pressure steam from a steam box H, substantially as shown and described.

Third, the eveners G, the rotary screen D, and endless carrier or apron F, arranged substantially as and for the purpose specified.

Fourth, the molds N in the wheel L, in combination with the plungers O and the arms Q, operated in the manner substantially as herein shown and described.



Fifth, the elevator I and endless carrier V, when used in combination with a rotary mold wheel, substantially as and for the purpose specified.

**70,970.**—JOSHUA C. CUNNINGHAM, Oglethorpe, Georgia.—*Mill Gearing*.—November 19, 1867.—The annular base gear is attached to the bridge tree in which the main shaft is stepped. The main shaft passes loosely through a rectangular frame, whose radial arms are attached to the water wheel and form journals for wheels having differential bevel gear engaging the base gear, and a bevel wheel on the main shaft.

*Claim.*—The pinion wheels C, each composed of two sets of cogs and of unequal diameters, in combination with the base A, crown gear wheel B, and shafts F, all arranged and operating as described, for the purpose specified.

**70,971.**—JOHN D'ARCY, San Francisco, Cal.—*Loaf Bread Machine*.—November 19, 1867.—The dough is passed in a continuous cake between the rollers, and being carried forward on the endless apron is divided into pieces by the rotating knife.

*Claim.*—The combination and arrangement of the kneading rollers C C', endless apron a, carried by the rollers D and D', and the rotating knife F, all as set forth.

**70,972.**—JONATHAN R. DAVIS, McKay, Ohio.—*Plow*.—November 19, 1867.—The frame is of iron, and the sides are hinged together so as to admit of single vertical movement, or of a side inclination of the whole frame.

*Claim.*—First, forming the beams A B, standards E, brace bars G, and handles H, and adjustably connecting them to each other, substantially in the form and manner herein shown and described and for the purpose set forth.

Second, the combination of the jointed or pivoted bars C and I with the beams A and B and handles H, substantially in the manner herein shown and described and for the purpose set forth.

**70,973.**—H. B. DAVISON, San Francisco, Cal.—*Bottle Washer*.—November 19, 1867.—Jets of water are forced into bottles placed over the nozzles.

*Claim.*—A bench or support provided with a series of holes B B to hold the bottles, in combination with a series of jet pipes D D, extending into the nozzles of the bottles, and conducting water to wash them, substantially as described.

**70,974.**—JOHN G. DE COURSEY, Philadelphia, Pa.—*Trundling Hoop*.—November 19, 1867.—The hoop has four spokes and a hub. The latter turns upon wires in the end of the operative handle.

*Claim.*—The hoop A, with its hub b and spokes a, in combination with an arm or handle C, connected to the said hub, substantially as and for the purpose described.

**70,975.**—PETER DE VRIES, Adrian, Mich.—*Boot Trees*.—November 19, 1867.—The front portion has a vertical screw, whose point impinges against a lever cam and serves to spread the leg part.

*Claim.*—The combination of the front and foot A B, made in one piece, the back C, the spreading key K, the lever I, elastic plate i, vertical screw G, and horizontal screw H, all arranged and employed in the manner and for the purposes set forth.

**70,976.**—WILLIAM P. DILLMAN, Joliet, Ill.—*Harvester Rake*.—November 19, 1867.—The rake head has sliding movement on an arm, which is rotated beneath the "arrester" and beneath which the rake head also passes in the forward part of the stroke, and issues therefrom to sweep the grain along the front and from the rear of the platform. The rake head has a stud traversing a cam groove in the platform, which causes its radially sliding motion on the arm and restricts it to the proper course.

*Claim.*—First, the arrester c, attached to the outer grain guard of the platform, and inclined toward the inner end of said platform.

Second, a grain arrester so constructed that the revolving rake passes under its outer end.

Third, the arrester c, constructed as described, in combination with the rake b, or its equivalent.

**70,977.**—FELIX DOMINY, Penataquit, N. Y.—*Center Board*.—November 19, 1867.—The center board is pivoted at one end, and is lowered and adjusted by a sliding rod at the other end; the movement of the board is limited by a transverse bolt traversing a slot.

*Claim.*—The center board A, constructed as described, when provided at its forward upper end with the sliding bar E, by which it is raised or lowered, substantially as herein shown and described.

**70,978.**—GEORGE DOWNING, Schuylerville, N. Y., assignor to himself and ROBERT HERMANCE, same place.—*Rock Drilling Machine*.—November 19, 1867.—The drill rod is depressed by a spiral spring, and raised by a rotating cam. The slide frame is adjustable in inclination. The drill rod is drawn from the hole or adjusted therein by a rack and pinion, and the rod has gradual rotation by a ratchet wheel and pawl lever operated by its vertical reciprocation.

*Claim.*—First, the crank wheels I, in combination with the shaft H, double cams G, drill spindle B, sliding plate C, and upright part D, as herein set forth, for the purpose specified.

Second, the combination and arrangement of the lever N, spring B', arm L, pawls K and C', and ratchet wheel J, with each other and with the drill spindle B, with its drill point A, sliding plate C, and crank wheel I, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the shaft O, toothed wheels P, pawls S and V, arm T, and racks R, with each other and with the sliding plate C and upright part D of the frame of the machine, substantially as herein shown and described and for the purpose set forth.

Fourth, the upright part D of the frame, connected to the horizontal part by means of the hinges X and adjustable hooks y, substantially as herein shown and described and for the purpose set forth.

**70,979.**—RICHARD EATON, London, England.—*Automatic Ventilating Stove*.—November 19, 1867.—Improvement on his patent May 15, 1866. A trumpet-mouthed pipe ascends from the air chamber in the stove base to near the ceiling, and air is drawn through it to support combustion. The expansion of the stove and pipe by heat acts thermostatically on dampers in the pipes and stove front to regulate draft.

*Claim.*—First, the combination with a ventilating stove of an automatic apparatus for operating the direct draft register or damper, and the ventilator damper, so as to transfer the draft from the one to the other, and regulate the same, substantially as and for the purpose set forth.

Second, the combination with the ventilating stove A B D E F of the damper or register C, damper G, rod L, lever l, and connections I J K, or their equivalents, arranged and operating substantially as and for the purpose described.

Third, the weight M, applied and operating in connection with an automatic ventilating stove, substantially as and for the purpose specified.

**70,980.**—SOLOMON J. EDWARDS, New Berlin, N. Y.—*Running Gear for Vehicles*.—November 19, 1867.—The wheels are attached to inwardly projecting arms, whose inner ends are secured by set screws to a central sleeve. The arms turn beneath anti-friction rollers in the boxes attached to the spring bar.

*Claim.*—In combination with sleeve C and set screws d d, arms B B, boxes g g, and rollers e e, when all are constructed and arranged as and for the purpose set forth.

**70,981.**—HERMANN FAUTZ, Newark, N. J., assignor to himself and JOSEPH H. FERREIRA, same place.—*Lock for Traveling Bags*.—November 19, 1867.—The catches on one jaw take under spring levers on the other. These levers are depressed by a push pin to free the catches. The pin is locked by a bolt operated by a key.

*Claim.*—The levers A A, or their equivalents, in combination with the springs c c, catches E E, and knob G, substantially as specified and for the purpose named.

**70,982.**—WILLIAM H. FERGUSON, Rochester, N. Y., assignor to himself and CLARK D. PAGE, same place.—*Safety Attachment for Pocket Books*.—No-



venber 19, 1867.—The poeket book has a loop engaged by a spring catch within the poeket.

*Claim.*—First, the combination and arrangement with the parts *A B c* of the fastening of the spring *E*, provided with the reverse bends *f h*, forming respectively the finger rest and the eye, the whole operating in the manner and for the purpose specified.

Second, as a new article of manufacture, the fastening for poeket books, consisting of the plates *A B*, provided with the points *a a*, and attached to the leather disk *b*, the whole arranged as described, and operating in the manner and for the purpose herein set forth.

**70,983.**—GEORGE B. FISHER, Chicago, Ill.—*Peat and Brick Machine.*—November 19, 1867.—A series of molds are arranged upon the convex surface of the eylinder, and have movable plungers operating radially. The covers of the molds are upon an endless chain, so arranged that the revolution of the eylinder will operate and secure them automatically, while a stationary cam gradually moves out the plungers and compresses the peat or clay in the molds. The covers are then removed and the block discharged.

*Claim.*—In combination with a eylinder provided with a series of molds and plungers, operating as described, the arrangement of a chain of blocks *D* for covering said molds, substantially as specified and described.

**70,984.**—PAUL FISHER, Williamsburg, N. Y.—*Meat Spit.*—November 19, 1867.—The spit has sliding skewer plates having fixed and removable skewers. The spit is oblong in section, to prevent the skewer plates from turning thereon.

*Claim.*—The skewer plates *B*, provided with the skewer *C* or *D*, in combination with the body *A* of the spit, substantially as described for the purpose specified.

**70,985.**—I. N. FORRESTER, Bridgeport, Conn.—*Rotary Swing.*—November 19, 1867.—The horizontal shafts with which the radial arms revolve have bevel wheels engaging the bevel wheel on a pivot post, by which a horizontal revolution of the whole frame is effected.

*Claim.*—First, rotating a swing or swings at once around horizontal and vertical axles, substantially as herein shown and described.

Second, the revolving platform *C*, arranged around the post *B*, and provided with nprights *D D*, in combination with the swing frames *E* and their axles *b*, all made as set forth.

**70,986.**—HOWARD BUSBY FOX, Oxtou, and JAMES TURNER HALL, Liverpool, England.—*Bottle Stopper.*—November 19, 1867.—The plug has eylindrical lengths of decreasing diameter toward the end which is inserted in the cork. The parts are secured together by shellae, or the rigid portion may be grooved.

*Claim.*—First, a stopper formed of wood and cork in combination, forming a cheap and durable stopper, substantially as and for the purposes herein set forth.

Second, the within described construction and arrangement of the rigid parts *a<sup>1</sup> a<sup>2</sup> a<sup>3</sup>*, having three different diameters, and fitted within and upon the elastic part *b*, in the manner and for the purpose herein set forth.

**70,987.**—FRANKLIN FREY, Liberty, Ill.—*Machine for Picking Hair.*—November 19, 1867.—The two rollers have similar rotation by connection with a common motive wheel, and turn in a double recessed, adjustable, concave block. The faces of the rollers and concave are armed with pins.

*Claim.*—The eylinders *D D'* and adjustable floor *G* suspended in the rod *c*, and having concave surfaces corresponding to the eylinders, provided, like them, with teeth *e e'*, in combination with the box *A* and feed table *H*, the whole being arranged to operate as and for the purpose described.

**70,988.**—WILLIAM T. FRY, New York, N. Y.—*Breast Pump.*—November 10, 1867.—The receiver has an opening, which in use is covered by the thumb, and serves as an exit for the milk. The air is drawn off through an upturned tube, which prevents the access of air to the valves. The valves consist of

two eylindrical, flanged caps, whose ends are perforated, and inclose between them a valve disk of rubber.

*Claim.*—First, the tube *d*, flexible at its outer end, in combination with a receiving vessel *A* and with a vessel *D*, or equivalent device, for exhausting the air from the vessel *A*, substantially as and for the purpose described.

Second, the valve case *B*, consisting of detachable caps *m n*, with their openings *e i i* and the vibrating disk *s*, the whole being constructed and arranged substantially as specified.

**70,989.**—JACOB GATSCHETS, York township, Ohio.—*Beehive.*—November 19, 1867.—The inner part of the hive consists of a lower series of bee frames and an upper series of frames for honey to be removed for use. This part of the hive is surrounded by sides and top connected by pins and hooks.

*Claim.*—First, the case *A*, when constructed and put together in the manner and for the purpose set forth.

Second, the inclined plane *B*, in combination with the frames or sash *g g g*, when said sash are constructed as and for the purpose described.

Third, the cap-piece *C*, in combination with sash *D D*, as and for the purpose specified.

Fourth, inclined plane *B*, sash *g g D D*, cap-piece *e*, and glass frame *k* and *B*, all arranged as and for the purpose set forth.

**70,990.**—ISAAC M. GATTMAN, New York, N. Y.—*Manufacture of White Lead.*—November 19, 1867; antedated November 14, 1867.—Explained by the claims.

*Claim.*—First, subjecting a strong and hot solution of the basic acetate of lead to a current of carbonic acid gas, substantially as and for the purpose herein described.

Second, applying steam in connection with a current of carbonic acid gas to a strong and hot solution of basic acetate of lead, substantially as and for the purpose specified.

Third, correcting defective precipitate of neutral carbonate of lead formed by the current of carbonic acid gas when the solution of basic acetate of lead may be too weak, by boiling it in a stronger solution of basic acetate of lead, as herein set forth.

Fourth, the manufacture of pure amorphous white lead by the method substantially as herein described.

**70,991.**—GEORGE GEMÜNDER, New York, N. Y.—*Violin and other Bow Instruments.*—November 19, 1867.—A secondary sound-post connects the top and bottom plates of the instrument. A catgut string passing from the bottom, at the key end, over this bridge and out through the case, forms the connection of the tail piece.

*Claim.*—First, arranging an additional sound-post *D* within the case of a bow instrument, substantially as and for the purpose herein shown and described.

Second, combining the additional sound-post *D* with a string *E* which passes over it, substantially as and for the purpose herein shown and described.

Third, connecting the sound posts of a bow instrument, by means of a string *E* and the tail piece *F*, with the main strings of the instrument, substantially as herein shown and described.

Fourth, the bridge *C* for connecting the post *D* with the main sound-post *B*, substantially as and for the purpose herein shown and described.

**70,992.**—BENJAMIN F. GODDARD, Charlton Depot, Mass.—*Boot Heel Cutter.*—November 19, 1867.—The cutters are various in size and are hinged to the frame so that they can be let down over each other. The heel lifts are cut to graduated size, and merely require beveling after attachment. The leather is placed on the cutters and forced down by blows of a wooden mallet.

*Claim.*—First, a device for cutting boot and shoe heels, composed of a plurality of dies of different sizes, arranged to operate in the manner substantially as shown and described.

Second, the rising and falling die *D* and rod *E* arranged to operate in connection with the die *C*, substantially as and for the purpose set forth.

Third, the slide *F* in combination with the dies *D*



C G I, arranged to operate substantially as and for the purpose specified.

**70,993.**—BENNETT J. GOODSSELL, Pent Water, Mich.—*Chimney Cowl*.—November 19, 1867.—The cap has two concentric, slotted walls, with unmatched openings, and the central flue has a jacket which conducts air from the apartments and delivers it into the cap, where it is discharged with the smoke, &c.

*Claim.*—First, the combination of two polygonal slotted caps G and H, or of a single cap having double side walls, with the top of the chimney, said cap or caps being constructed and arranged substantially as herein shown and described and for the purpose set forth.

Second, the combination of the interior pipe or flue C and exterior ventilating pipe D with each other, with the chimney B, and with the polygonal slotted cap or caps G H, substantially as herein shown and described and for the purpose set forth.

**70,994.**—WILLIAM F. GORDON, Detroit, Mich.—*Ice Cutting Machine*.—November 19, 1867.—The saw receives motion from a serrated wheel which engages the ice, and is vertically adjustable by a rack and pinion operating its journal frame.

*Claim.*—The combination and arrangement of the runner A, the traction wheels B, the gear wheels C D, pinions E F, the ratchets H H, the shafts K L M N, the circular saw O, the skate rudder P, the slipping collar S, the guide lever T, the seat V, the shafts W, the frames X X and 4 4, the driving wheel Y, belt 2, pulley 3, and the marking rod 7, all arranged substantially as described and for the purpose designed.

**70,995.**—HENRY GOULDING, Silver City, Nevada.—*Furnace for Roasting Ores*.—November 19, 1867.—The ore containing precious metal is placed while in wet pulp in cylindrical molds, having vertical pipes through them for passage of caloric currents to dry the ore for easy amalgamation. The molds have lugs, by which they are raised while transferring from place to place in the furnace.

*Claim.*—First, the roasting of ores in molds or chambers, substantially as described.

Second, the arrangement of molds containing ores to be roasted, so that they can be gradually brought nearer the fire or removed from it, substantially as described.

Third, removing the molds containing ores from the fire while undergoing the process, so that the decomposition may be conducted without additional heat, substantially as described.

Fourth, the placing of a freshly filled mold containing unroasted ore upon the top of a mold that has been removed from the fire, for the purpose of utilizing the excess of heat, substantially as described.

Fifth, the arrangement of furnace, cooler, and crane, as described, for the purpose described.

Sixth, the conducting of the flue through water or its equivalent, for the purpose of condensing the volatile matter when used in connection with ores roasted in molds, substantially as described.

**70,996.**—SOLOMON S. GRAY, Boston, Mass.—*Apparatus for Molding Collars*.—November 19, 1867.—The fixed part has a concave curve, with an angular projecting face, and the other face is suitably formed to fit it, and is operated by a knob.

*Claim.*—A combined gage and mold or former for placing and shaping paper collars, constructed and operating substantially as described.

**70,997.**—HENRY HAMMOND, Hartford, Conn.—*Die for Swaging Hammers*.—November 19, 1867; antedated October 22, 1867.—The blank is swaged into form between dies with which a punch is connected; the punch spreads the metal forced out in forming the eye and makes an inward extension of the socket.

*Claim.*—The peculiar manner of constructing hammers herein set forth, by means of dies and punches of the form described.

**70,998.**—HENRY HAMMOND, Hartford, Conn.—*Die for Forming the Claws of Hammers*.—November 19, 1867; antedated October 22, 1867.—The head is clamped by a cam upon the lower die plate attached

to the bed piece, and the cutter die connected to the descending stock forms the claw slot.

*Claim.*—First, the combination of the dies *a* and *b* and cutter *c*, all constructed and arranged substantially as described.

Second, in combination with the dies *a* and *b* and cutter *c*, the cam K, arranged and operating substantially as described.

**70,999.**—MORTIMER S. HARSHA, Batavia, Ill., assignor to himself and LAVIAS F. DOW, Cortland, N. Y.—*Concrete Brick Machine*.—November 19, 1867.—The top of the mold is raised and the mold filled with clay, the plunger is then pressed forward by the toggle operated by the crank. The end of the mold is then drawn down and the brick driven out by a further movement of the plunger by a hand lever.

*Claim.*—First, the combination of the mold, composed of the slides D C and the bottom X, the plunger E and the jointed lever I, all arranged substantially in the manner and for the purposes set forth.

Second, the combination of the mold, constructed of the bottom X and the slides C and D with the jointed arm I, shaft M, cord *r*, and spring L, or its equivalent, arranged and operating as and for the purposes specified.

Third, the combination of the mold, slides D and C, spring N, plunger E, and lever F, arranged and operating as and for the purposes set forth.

**71,000.**—JAMES T. HARVEY, Murrysville, Pa.—*Straw Cutter*.—November 19, 1867.—The knife has cutting edges above and below, and is set at an inclination to the sash. The sash is reciprocated on inclined guide rods.

*Claim.*—The double-edged knife *d*, attached by a sash or otherwise to the inclined guide rods *i i*, in combination with the metallic plates or edges *c c'* and bifurcated ratchet bar *m* with adjustable arms *n n'*, constructed and operated substantially as and for the purposes above set forth.

**71,001.**—GEORGE S. HARWOOD, Boston, Mass.—*Feeder for Carding Machines*.—November 19, 1867.—Improvement on the patent of Apperly & Clissold, No. 18,888.—The upper portions of the traversing rolls are received into a countersunk plate, which forms a cap fitting closely over their tops. The guide attached to the traverse plate has a lip extending partly around and between the rollers, so as to support and prevent the slipping down of the sliver.

*Claim.*—First, in a card-feeding machine, such as described, the plate for carrying the traversing rolls, constructed as herein specified; that is to say, countersunk, or provided with recesses, so as to form a cap or covering for the said rolls, substantially as and for the purposes set forth.

Second, the guide or ring attached to the traverse plate, provided with a lip or guard, extending between and partly around the rollers, as and for the purposes specified.

**71,002.**—DAVID GREENE HASKINS, Cambridge, Mass.—*Gas heating Apparatus*.—November 19, 1867.—The burner is surrounded by a perforated, flaring tube, which is surrounded by a frusto-conical case into which air is forced and mingled with the caloric current in a cylinder above the flame. Heated air ascends between the tube and air chamber and the ascending currents are deflected by plates on a vertical rod in the cylinder and pass out around a disk affixed to its top.

*Claim.*—First, the combination of an air chamber A, constructed as described, with the ring *r*, the perforated tube B, and the air-supplying apparatus R S S, or its equivalent, substantially as and for the purpose described.

Second, the combination of the chamber A and the tube D, provided with deflectors, and a plate or button *o* with a gas or vapor burner, substantially as and for the purpose specified.

**71,003.**—EDWARD HEATON, New Haven, Conn.—*Shank Spring for Boots and Shoes*.—November 19, 1867.—Improvement on his patent, February 23, 1864. The metallic spring is attached to the convex side of the wooden spring by a single rivet at its center.

*Claim.*—As a new article of manufacture, the herein described shank spring, consisting of a wood



spring A, combined with a tempered metallic spring B, united in the manner substantially as set forth.

**71,004.**—E. E. HENDRICK, Carbondale, Pa.—*Drying Gunpowder.*—November 19, 1867; antedated November 9, 1867.—The canvas-bottomed trays containing powder are placed in a cylinder and the air exhausted therefrom. The cylinder has a hydrometer, a thermometer, and a hygrometer to show the pressure, temperature, and moisture within the cylinder.

*Claim.*—The desiccation of gunpowder, by submitting the same in vacuo to a removal of the atmospheric pressure, for the purpose and in the manner substantially as described.

**71,005.**—JOHN M. HIGGINS, St. Louis, Mo., administrator of W. B. CULBERTSON.—*Lighting Gas by Electricity.*—November 19, 1867.—The upper wheel upon the gas cock is turned by clock work, which is thrown into action by the release of an armature lever. The said spur wheel has cams which actuate the switch arms, the platinum plate at their ends coming in proximity to the burner, the issuing gas from which is lighted as the switch is at the same time thrown into the electric circuit.

*Claim.*—First, the switch S, vibrated by the rotation of the wheel on the gas cock, substantially as described.

Second, the combination of the wheel D with cams *d d* and the vibrating switch S, as described.

Third, the arrangement of the clock gearing, the fan K, the wheel D, the escapement L *l l'*, and the notched wheel Q, substantially as described.

Fourth, the armature O, spring catch *o*, and escapement L *l l'*, arranged substantially as described.

Fifth, the arrangement of the spring E and gearing, the fan K, cam-faced wheel D, armature O, escapement L, and switch S, substantially as described and represented.

**71,006.**—THEOPHILUS HIGGINBOTHAM, Hernando, Fla., assignor to himself, JOHN PARSONS, and EBERHARD FABER, New York, N. Y.—*Fibrous Material.*—November 19, 1867.—The stalks of the althea frutex are passed through rollers, treated with alkaline solutions, prepared similarly to hemp, and applied to similar use.

*Claim.*—Producing from the plant known as the althea frutex, or cockle-burr, fibers, fit for ropes, textile fabrics, or paper, substantially as set forth.

**71,007.**—RICHARD H. HILTON, Newbern, N. C., assignor to MITCHELL ALLEN & CO., same place.—*Air Chambers of Pumps.*—November 19, 1867.—The suction pipe descends into the air chamber, and has a funnel-shaped, perforated plate at its bottom. An annular air chamber surrounds the pipe, and the raised seat of the ball valve is surrounded by an annular chamber for sediment.

*Claim.*—The tube B, the strainer B', ball valve C, conical valve seat D, and the sediment chamber F, arranged substantially as described, in combination with the air chamber A, for the purpose set forth.

**71,008.**—GEORGE P. HODSON and JAMES L. HODSON, Philadelphia, Pa.—*Shaft Coupling.*—November 19, 1867.—The two ends of the shafts are enclosed in a longitudinally-slotted sleeve, whose inclined ribs engage the ribs of an enclosing cylinder, by which it is contracted upon the sleeve by the action of longitudinal bolts.

*Claim.*—The within-described coupling, composed of the outer portion A with its internal, inclined ribs *h* and the inner, severed portion B with its inclined ribs *f f*, the two portions being adapted to each other and to the shaft and secured together, all substantially as and for the purpose herein set forth.

**71,009.**—E. A. HOLBROOK, JOHN E. DODGE, and G. H. MARSHALL, Watertown, N. Y.—*Window-Blind Fastener.*—November 19, 1867.—The window shutter has a horizontal crown-gear rack, concentric with its axis of oscillation. The down-turned eogs engage a spur wheel upon a shaft passing through the easing. The shutter can be opened or closed by rotation of the shaft, and locked by a slight retraction of the latter, which locks the cog wheel against a projecting spur.

*Claim.*—The combination with a hinge constructed

as described of the sliding shaft and pinion and locking stud, under the arrangement herein described, so that the said pinion may be locked and its motion prevented while it remains in gear with the crown wheel or circular rack of the said hinge.

**71,010.**—JOHN HOPE, Providence, R. I., assignor to HOPE & CO., same place.—*Pantographic Engraver.*—November 19, 1867.—The movements of the stylus in its passage over the stylus are communicated to the table supporting the prepared plate. The movements vary in extent, said variation being adjustable by removable pins. Prepared cylinders may be placed in position on rough-edged rollers, which will be operated by the movement of the stylus, to produce a reduced copy of the pattern on the convex face of the cylinder.

*Claim.*—First, combining the carriage of the tracer or stylus in a pantographic engraving machine with the object table by means of the levers L and O and the stud pins *h* and *l*, operated respectively by the levers K and N, through the rocking standards K' and N', substantially as described, for the purposes set forth.

Second, making the index plate S adjustable with reference to the surface of the roller, to be engraved by the means substantially as described.

**71,011.**—ALFRED HORN, Silver City, Nevada.—*Amalgamator.*—November 19, 1867.—The scraper is attached to the moving part of the amalgamator and traverses the annular depression containing the mercury. The scraper slides vertically in its frame, and is secured by a set screw.

*Claim.*—First, the application of a scraper or distributor C to an amalgamating machine or pan, for the purpose of distributing the mercury through the pulp, substantially as described.

Second, arranging the said distributor to an amalgamating machine so that it may be easily adjusted to the wear of the shoes and dies, substantially as described.

**71,012.**—WILLIAM W. HUBBARD, Philadelphia, Pa.—*Bolt Machine.*—November 19, 1867.—The free ends of the beams enter apertures in the hammer stocks. These beams have side pins which enter L-formed slots in plates at the upper ends of the connecting rods from the cranks. Spiral springs tend to keep these pins in the vertical parts of the slots, so that the beam is not operated. The pin is thrown by a lever into the horizontal part of the slot, to cause oscillation of the beam. The dies are formed to forge the blank and swage the head. The head die block is swung out by a treadle so as to allow charging the same, and is returned by a weighted chain.

*Claim.*—First, the two hammers F and F', one having a head and anvil for forging and the other a head and anvil for heading bolts, in combination with a double cranked shaft for operating the hammer, substantially in the manner set forth.

Second, the connecting rods D and D', each composed of two parts, with intervening spiral springs, all constructed substantially as and for the purpose described.

Third, the combination of plate *a*, having the L-shaped slots *e* of the crank rods, with the pins *d* of the vibrating arms E and E'.

Fourth, the spring levers J and J', spindles *s* and *s'*, notched arms *v'*, springs *q'*, and the rods and chains herein described, in combination with the connecting rods D and D' and vibrating arms E and E', for the purpose specified.

Fifth, the lever I and shaft *p*, with its arms *n'* and *p'*, in combination with the hinged block or anvil H, its rod *l'*, and the weighted chain *m*.

**71,013.**—Canceled.

**71,014.**—W. L. HUNTINGTON, Chicago, Ill.—*Spring Bed Bottom.*—November 19, 1867.—The ends of the woven metallic strips are attached to a frame connected to the rails by V-formed plate springs and leather straps, and the strips are supported by spiral springs beneath their intersection.

*Claim.*—First, the combination of the frames A B, springs S, metallic strips D, V-shaped springs E, arranged as and for the purposes specified.

Second, the combination of the frames A B, springs



S, strips D, and straps and buckles F G, substantially as and for the purposes specified.

Third, the combination of the frames A B, springs S, V-shaped springs E, and straps and buckles F G, as and for the purposes described.

**71,015.**—REUBEN K. HUNTOON, Boston, Mass., assignor to himself and J. AUGUSTUS LYNCH, same place.—*Governor for Steam Engines.*—November 19, 1867.—A wheel having inclined wings is rotated within a vessel filled with oil, and the consequent end movement of the wheel shaft is communicated to the end of a lever whose axial shaft has a sheave upon which is a loaded chain tending to keep the lever in contact with the end of the shaft of the winged wheel. The movement is communicated to the governor valve stem.

*Claim.*—The combination and arrangement of the close oil vessel I and the open head or partition H with the case A, the propeller, its shaft, and driving gears, arranged within the vessel and case, substantially as described.

Also, the combination as well as the arrangement of the arm M, its shaft N, wheel U, chain V, and weight W, or the mechanical equivalent of such wheel, chain, and weight, with the propeller, its shaft, and the case or cases containing such propeller and shaft.

Also, the combination of the guide wheels X X, or their equivalent, with the weight W, its chain V, and supporting wheel U, the shaft N, arm M, the propeller, its shaft, oil reservoir or case, and operate mechanism, substantially as described.

Also, the combination of the insulator E with the steam-valve case, and the governor made and applied thereto, substantially as set forth.

**71,016.**—ARCHIBALD HUTTON, St. Louis, Mo.—*Valve for Steam Engines.*—November 19, 1867.—An auxiliary valve is arranged in such a manner as to allow the first and largest part of the steam to exhaust into the open air, and the remainder to pass into the condenser. In the manufacture of new engines a single valve is arranged to answer the purpose.

*Claim.*—The valve A, when constructed with one or two port openings  $a^3$  and combined with the ports  $a$ ,  $a^1$ ,  $a^2$ , and the condenser passage B, as described and set forth.

**71,017.**—CHARLES R. JENKINS, Philadelphia, Pa.—*Sash Stop.*—November 19, 1867.—The sash has metallic anti-friction rollers on one side and elastic friction rollers on the other.

*Claim.*—The combination with a window sash of a set of metallic or inelastic rollers D applied to one side, and a set of soft rubber rollers C applied to the other side, as and for the purpose set forth.

**71,018.**—CHARLES KANE, Allegheny City, Pa., assignor to himself and JOHN GRIBBEN.—*Sash Supporter.*—November 19, 1867.—The polygonal elastic friction roller has lateral movement in the sash and outward adjustment by screws operating on its journals.

*Claim.*—The polygonal-shaped elastic friction roller C, in combination with the box H, slots G G, and screws F F, arranged in the manner and for the purpose specified.

**71,019.**—WILLIAM C. KELLUM, San Francisco, Cal.—*Escapement for Time Pieces.*—November 19, 1867.—A return spring is attached to the detent lever by a pivot in such manner that the two may be kept in adjustment by one spring. A lock lever is attached to the detent lever so that, in case more than one tooth passes at once, this lever will catch the escape wheel and force it to lock on the detent lever. A light spring is so placed that as the hair spring uncoils it forces it out so as to catch the banking pin on the rim of the wheel; a lever is also so placed as to be moved by the motions of the hair spring, to catch the banking pin at a certain point.

*Claim.*—In combination with the escape wheel O, the arrangement of the detent lever H, springs J and K, lock lever  $n$ , and adjusting screw I, substantially as and for the purpose set forth.

**71,020.**—JOHN J. KENTS, Newtown, Pa.—*Slitting Machine.*—November 19, 1867.—A series of

knives are placed between guides separated by plates and clamped by a set-screw. A segmental, leather covered frame is hung so as to be brought down over the cutters or thrown up therefrom. The leather, after reduction to the proper width, is placed on the cutters and the block brought down thereon. The leather is then drawn through.

*Claim.*—The combination of a series of knives or cutters with a segmental hinged press frame covered with leather, a bearing plate, stationary and movable guides, distance pieces and screw, when combined and arranged in the manner and for the purpose described and set forth.

**71,021.**—CHARLES E. KLEINSCHMIDT, Cleveland, Ohio.—*Car Wheel.*—November 19, 1867.—The web of the wheel consists of two out-curved, annular plates with flanges to rest against the beveled faces upon the hub and tire. These plates are held together by stay bolts.

*Claim.*—The plates B B having flanges  $c$   $c^2$  on their outer and inner edges, the hub  $b$  having a bevelled periphery, the tire D having its inner surface also bevelled, and the rings E E<sup>2</sup>, and the bolts  $f$   $f$ , all constructed, arranged, and combined in the manner described and for the purpose set forth.

**71,022.**—F. KOPPER, New York, N. Y.—*Toilet Table.*—November 19, 1867; antedated November 9, 1867.—The legs and towel rack may be folded inward, and the sections of the table folded together to appear as a small box or footstool.

*Claim.*—The combination of the hinged parts B, bars D, hinged legs C, spring catch E, and adjustable towel frame F, constructed and adapted to be folded together, as herein set forth for the purpose specified.

**71,023.**—ISRAEL LANCASTER, Baltimore, Md.—*Grain Binder.*—November 19, 1867.—Improvement on his patents, January 23, 1866, and April 24, 1866. The band knot is twisted around the head of a plate and a tube, from which, after it is formed, it is carried by a movement of the plate to a straight line between the pinching bars, tightening its folds as it does so. When the sheaf is released from the pinching bars its expansion draws the knot off the head of the plate.

*Claim.*—First, the combined action of the band carrier 50 and wing C, substantially as described and for the purpose mentioned.

Second, the application to the band carrier 50 of the chain O, constructed and operated substantially as described and for the purpose mentioned.

Third, the method of holding the two ends of the cord forming the sheaf band by means of pinching bars placed at a short distance from each other, between which bars the knot is formed, substantially as described.

Fourth, the plate 16 and the pinching bar mechanism operated by it, constructed and operating substantially as described and for the purpose mentioned.

Fifth, the adjusting lever B and slotted plate  $w$ , acting in combination, constructed substantially as described and for the purpose mentioned.

Sixth, the removing of friction from the spools E during the rapid movements of the lever B, substantially as described, and to prevent breakage of the band material.

Seventh, the operation of the bar 20 by cam segments on the shaft 22, in the manner and for the purpose substantially as described.

Eighth, the construction and operation of the knife 7' 7'', in the manner and for the purpose substantially as described.

Ninth, preventing slack in the sheaf band on releasing the sheaf, by forming the folds of the knot over an arm which carries it to a straight line between the pinching bars, in the manner substantially as described.

**71,024.**—CHARLES B. LANG, Chicopee, Mass.—*Tassel Fastening.*—November 19, 1867.—The tubular core block has a cam pivoted in a hole in its side, which cam catches the knot on the end of the cord.

*Claim.*—First, the cam fastening  $a$ , when constructed as described and for the purpose specified.

Second, the cam  $a$  in combination with the core block  $e$  and cord  $b$ , substantially as and for the purpose specified.



**71,025.**—GUNDER LARSON, Lake Mills, Wis.—*Sleigh Knee*.—November 19, 1867.—The knee has a flanged plate for attachment of the beam, and has forked standards for attachment to the runner.

*Claim.*—A cast-iron sled knee having separate supports in one casting, as shown and described and for the purpose specified.

**71,026.**—DAVID P. LEWIS, Huntsville, Alabama.—*Hose Guard*.—November 19, 1867.—A metallic pipe is laid beneath the car track, and through it the pipe is run. The ends of the pipe are secured when not used by sliding doors and blocks of stone with raising rings.

*Claim.*—A guard for hose or tubing, made substantially as described for the purpose specified.

**71,027.**—S. P. LOOMIS, Philadelphia, Pa.—*Painters' Window Jack*.—November 19, 1867.—The frame has pivoted brace bars to rest against the outside of the house and holdfasts hinged to an adjustable block; these rest against the inside of the window frame.

*Claim.*—The improved window jack, constructed and arranged substantially as and for the purpose herein shown and described.

**71,028.**—JOHN D. LYNDE, Philadelphia, Pa.—*Apparatus for Charging Soda Water*.—November 19, 1867; antedated November 9, 1867.—The alkali chamber is made of cast-iron lined with porcelain, and is in two kettle-formed sections united by an out-turned flange. The leaden acid chamber is connected to the alkali chamber by a coupling and valve, and a pipe communicates between the upper portions of the chambers to equalize the pressure of gas. The shaft of the agitator passes through a stuffing box in the side of the alkali chamber. The whole is mounted on rockers on which it may be tilted to cause the acid to run from the valve when not in use. The acid chamber has a leaden strainer to prevent passage of clay to the valve.

*Claim.*—First, constructing the acid chamber K in such form that when combined with the body of the generator and charged for use and tilted back, the acid in the chamber will recede or flow back from the valve, substantially as set forth.

Second, supplying strainers to the inside of acid chambers or gas generators, for the purpose described.

Third, the application of enamel or porcelain lining to the alkali chamber or body of gas generators.

Fourth, the application of the rockers F<sup>2</sup> to gas generators, as described.

Fifth, tilting gas generator, for the purpose set forth.

Sixth, providing gas generators, or fountains, constructed of cast-iron, with the braces o o to strengthen the flange, substantially as described.

**71,029.**—R. MAHR, New York, N. Y.—*Churn*.—November 19, 1867.—The reciprocating dashers are operated by the compound crank shaft, and are detachable from their pitmans by removal of a single screw from each.

*Claim.*—The arrangement of the driving wheel H, pulleys L and M, belt g, double crank shaft K, connecting rods f f, and sleeve rods E E, for working the reciprocating dashers, the whole constructed and operating substantially as described and specified.

**71,030.**—JOHN MARX, Rochester, N. Y.—*Fire Escape*.—November 19, 1867.—A tubular canvas chute is stretched by cords which have attaching hooks at the upper ends and loops at the lower. A sheet having corner loops receives the matters at the bottom of the chute.

*Claim.*—The arrangement with the flexible tube A of the cords a, sharp pointed hooks c, and the flap B, operating in the manner and for the purpose herein set forth.

**71,031.**—BENSON MAYO, Chatham, Mass.—*Window Blind Fastening*.—November 19, 1867.—The shutter has a downward projection, which engages a spring catch when open and another when closed. The guards protect the catches from violence.

*Claim.*—The combination of the spur a, the latch-springs b b', the guards c, the bracket rest d, and the window blind A, arranged and operating substantially as and for the purpose herein described.

**71,032.**—JOHN MCCOY, Philadelphia, Pa., assignor to himself and WILLIAM T. SNELL, same place.—*Sheet Metal Coal Hod*.—November 19, 1867.—The plain sheet iron and zinc are connected by a horizontal joint in the side of the upper part.

*Claim.*—Manufacturing sheet metal coal hods, by making the foot C D, and the upper part A of the body, of plain sheet iron, and the bottom E, and the lower part B of the body, of galvanized or zincd sheet iron, substantially as and for the purpose described.

**71,033.**—JOHN MCKEEVER, New York, N. Y.—*Hoop Skirt*.—November 19, 1867.—Explained by the claim.

*Claim.*—A woven skirt, a portion of which is made of single close texture, and a portion of open gauze net work, the pockets being made of double close texture, as a new article of manufacture.

**71,034.**—JOHN B. MELDRUM, Paterson, N. J.—*Floor Cloth and Carpeting*.—November 19, 1867.—Aniline colors are pressed into bleached jute cloth by blocks or rollers.

*Claim.*—A jute floor cloth or carpet, printed with aniline colors, substantially as and for the purpose described.

**71,035.**—A. MEREDITH and P. P. MEREDITH, Maxintuckee, Ind.—*Hand Loom*.—November 19, 1867.—The shuttle drivers are connected to a cam-plate oscillated by movement of the lay, which latter is also connected with the treadle shaft to operate the same.

*Claim.*—The cam plate I, in combination with the three pronged dog b, the levers h h, the springs m m, and the shuttle drivers L L, constructed, arranged and operating substantially in the manner and for the purpose herein shown and described.

**71,036.**—CHARLES MERRITT, South Weymouth, Mass.—*Apparatus for Dyeing Hair*.—November 19, 1867.—One jaw carries a conical case which contains a sponge saturated with the dyeing mixture. The sponge projects through a slot in the case and the hair is forced against it by the other jaw.

*Claim.*—The apparatus substantially as described, that is, as composed of the jointed curved levers, and the cone, sponge, and jaw, arranged together substantially as set forth.

**71,037.**—JOSEPH MESSINGER, Springfield, Vt.—*Brush Holder*.—November 19, 1867.—The brush is clamped by screws in a frame at the end of a staff, a rib of the staff entering a groove in the staff head.

*Claim.*—First, the socket C, in which the handle D is fitted when secured to the clamp of a scrub brush, as shown, or in an equivalent way, to admit of the socket or handle being adjusted in different positions relatively with the brush, as herein set forth.

Second, the combination of the clamp A and socket C, constructed substantially in the manner as and for the purpose specified.

**71,038.**—JAMES MILLER and JAMES MILLER, Jr., Peekham, England.—*Elastic Gusset for Wearing Apparel*.—November 19, 1867.—Two pieces of leather or fabric have a series of parallel rows of stitches running transversely and forming cases for the continuous rubber cord which is inserted in them, passing in a sinuous course from side to side.

*Claim.*—Elastic gussets or springs, formed by stitching through two fabrics several rows in parallel lines, and inserting between the same india-rubber thread or cord, in one continuous length, substantially as herein described and for the purposes specified.

**71,039.**—JOB MILLER, Warren, R. I.—*Knitting Machine Needle*.—November 19, 1867.—The grooved knitting needle is made by bending sheet metal to form a dovetail groove for traverse of the stitch caster. The needle has a pointed, hooked end, and its rear end is attached to the holder.

*Claim.*—A knitting machine needle, constructed of sheet metal, and formed as described, in combination with a stitch caster, constructed as described, to fit said needle, as and for the purpose set forth.



**71,040.**—J. W. MILROY, Galveston, Ind.—*Drain Tile Machine*.—November 19, 1867.—The table supports a mold and a frame, giving support to the vertically-sliding, flanged roller, which is rotated by a winch and raised and depressed by treadles to form the pipes within the mold.

*Claim.*—The construction of a machine for molding tiles for drains by means of a table and treadles *d d*, operating the roller C, through slides *b b*, working in grooved standards *a a*, and the combination of the mold *E* with the roller in a machine as thus constructed, substantially in the manner and for the purpose as herein set forth.

**71,041.**—J. FERGUSON MORSELL, Stamford, Conn.—*Spring Buckle*.—November 19, 1867.—The strap passes beneath a spring plate having a tooth with one inclined side allowing the tightening of the strap, which is done by drawing the end around a pulley on the frame.

*Claim.*—First, the combination of the bed plate A and spring C, carrying a ridge or jaw D, substantially as and for the purpose herein specified.

Second, the combination of a loop E, with the bed plate A, and spring C D, substantially as and for the purpose herein specified.

**71,042.**—D. T. MUNGER, Waterbury, Conn.—*Machine for Making Ball Chain*.—November 19, 1867.—The rectangular plate of metal is formed into a cylinder, its meeting edges being joined. Its ends are closed around the neck of the double-headed rivet by swaging dies.

*Claim.*—First, the die E, combined with the dies F F, so as to operate to close the ball upon the rivets, substantially as herein set forth.

Second, the arrangement of the plate I, in combination with the dies E and F F, as and for the purpose specified.

**71,043.**—WILLIAM MURRAY, Chicago, Ill.—*Hoisting Machine*.—November 19, 1867.—Motion is taken from a rotating shaft and communicated to a disk whose projections engage a rack of the shifter bar to shift the belt and stop the mechanism when the platform is at its extreme, either of elevation or depression. The platform has guide blocks entering vertical guide grooves of the frame. The hoisting ropes are attached to catches which on breaking of the ropes are drawn in by spiral springs to engage the rack extending the whole height of the frame.

*Claim.*—First, the combination of the shaft I, the disk K, and bar J, in a hoisting machine, when arranged and operating substantially as and for the purpose set forth.

Second, the combination of the platform A, provided with the blocks M and frame B, when constructed and operated substantially as described.

Third, in combination with the above the pieces N, for the purpose of keeping the platform horizontal, substantially as specified.

Fourth, in combination with the platform A, and racks Q, the plates O, rods R, and levers S, when arranged and operating substantially as and for the purposes herein set forth and described.

**71,044.**—ENOCH NICKERSON, Provincetown, Mass.—*Combined Pump and Reservoir*.—November 19, 1867.—A metallic cylinder, air tight in the sides and top, and having a perforated bottom is sunk in a spring hole to form a reservoir. A pump is fixed in it and the top has a plug for escape of air.

*Claim.*—A tank or reservoir A, made air tight at its sides and top, and provided with a perforated bottom in combination with a pump D, as and for the purpose specified.

**71,045.**—J. NICOLAI, Boston, Mass.—*Folding Chair*.—November 19, 1867.—The fore legs are carried backward and upward to form the back, and the hind legs are pivoted to the fore legs and forming the fore ends of the elbows are connected by straps to the back. The seat is hinged to the back pieces and rests on a round between the elbow pieces.

*Claim.*—The combination of the legs A and B, pivoted at H, the handles D and D', the seat hinged at the rear end, and supported in front upon the rung M, substantially as described and for the purpose set forth.

**71,046.**—JAY NOBLE, Rochester, N. Y.—*Lever for Railroad Cars*.—November 19, 1867.—The slotted lever is connected to each of the standards alternately by means of the fulcrum pins and by its oscillation serves to raise the jack which is pivoted to the lever between the standards.

*Claim.*—The lever 1, jack 2, and fulcrum 3 and 4, constructed and arranged as and for the purposes mentioned and set forth.

**71,047.**—JOHN G. OONK, Owensville, Ohio.—*Show Stand*.—November 19, 1867.—The show case has a series of rollers upon which the goods are wound and from which an end may be unwound for exhibition. The cloth is rewound by a winch.

*Claim.*—A show stand, constructed substantially as and for the purpose described.

**71,048.**—SAMUEL ORTH, Philadelphia, Pa.—*Machine for Cutting Pastedoard, &c.*—November 19, 1867.—The pasteboard is passed between a plain roller and a series of adjustable grooving disks, and then between the adjustable cutting disks.

*Claim.*—The shafts D and E, with their adjustable disks *m* and *n*, in combination with the shaft F, and its adjustable disks *q*, and the roller D, the whole being constructed and arranged for the simultaneous cutting and scoring of straw and other boards, substantially as set forth.

**71,049.**—WILLIAM W. PAGE, Troy, N. Y.—*Stairs*.—November 19, 1867.—The steps are made in sections of different elevations so that a person may step alternately on each section and rise but half an ordinary "riser" at each step made.

*Claim.*—The combination of two or more parallel flights or sections in one staircase or ascent of steps, assigning a separate flight to each foot, substantially in the manner and for the purposes set forth.

**71,050.**—JAMES PARKER, Camberwell, England, assignor to W. W. W. WOOD and R. H. LAMSON.—*Apparatus for Raising Fluid*.—November 19, 1867.—A mixture of steam and air is admitted into the top of the tank to force water therefrom by direct pressure on its upper surface. The steam and air are mixed by means of a number of small jets from a steam pipe which enter a series of nozzles projecting from a parallel pipe.

*Claim.*—The combination of the steam pipe A and its perforations, and the pipe B and its nozzles *b*, with the tanks C, their valves D, or their equivalents, and pipe E, for the purpose specified.

**71,051.**—JOHN H. PARSONS, Quincy, Mich.—*Label Holder for Railroad Cars*.—November 19, 1867.—The memorandum car label is placed in a metallic frame having a lid by which the label is secured.

*Claim.*—The arrangement of the label rack B, lid A, with the coil spring *m z*, substantially as and for the purpose described and set forth.

**71,052.**—MARQUIS PEATT, Dexter, Mich.—*Belt Tightener*.—November 19, 1867.—The clasps are attached to the belt on each side of the tightening buckle and a strap from one clasp passes through the other and around a wheel rotated by a winch and retained by a pawl while the buckle is tightened.

*Claim.*—The convex half-clasp B, and the concave half-clasp A, and the buckle E, in conjunction with the strap I and the winch G, arranged as and for the purposes described.

**71,053.**—HORACE L. PERRY, Aurora, N. Y.—*Gang Plow*.—November 19, 1867.—Improvement on his patent April 30, 1867. One side of the main frame is hinged to the axle and the other is adjustable thereon by a rack and pinion. The wheel at the free end of the axle has a flanged tire acting as a guide.

*Claim.*—First, in a gang plow having a main frame A, and a plow frame C, substantially as herein described, hinging the main frame A at one side upon the axle, so that it may be leveled in the manner and for the purpose set forth.

Second, the rib or flange O formed upon the supporting wheels, substantially as and for the purpose set forth.



**71,054.**—CYRUS PHELON, West Granville, Mass.—*Brake for Vehicles.*—November 19, 1867.—Explained by the claim and illustration.

*Claim.*—A brake for vehicles in which the brake bar B, having the shoes H arranged behind the wheels upon the body of the vehicle, is connected with the lower end of a lever A pivoted through the pole, the other end of said lever being operated by the holding back of the animal, the whole being arranged substantially as shown.

**71,055.**—LORING PICKERING and CHAUNCEY ST. JOHN, New York, N. Y.—*Quartz Mill.*—November 19, 1867.—The spherical mullers are revolved in an annular way by a radial arm on a rotating vertical shaft. The arm carries agitators to stir up the material and fans to carry the dust against a conical deflector from whence it settles into an outer annular chamber and is discharged by pipes at the bottom.

*Claim.*—First, in a quartz mill the pan A having an annular trough, the mullers B propelled by arms C having fans 3 and agitators F, constructed and operating substantially as described.

Second, the jacket D and cone J when arranged with the cylinder E and used in combination with the parts of the above described quartz mill, substantially in the manner and for the purpose specified.

**71,056.**—WALTER PIERCE, Onion Valley, Cal.—*Rock Drilling Machine.*—November 19, 1867.—The drill is actuated by the hammer block sliding on the adjustable ways and is reciprocated by a system of levers, the vertical one of which passes up through an aperture in the hammer furnished with anti-friction rollers for the impingement of the levers.

*Claim.*—First, the adjustable ways C having the drill D and the slotted hammer F moving upon them, substantially as and for the purpose described.

Second, the levers J I and G operating upon each other and upon the hammer F, substantially as and for the purpose described.

Third, in connection, as an improved drilling machine, the levers J I and G, the hammer F operating upon the drill D together with the adjustable ways C C, the whole constructed substantially as and for the purposes herein described.

**71,057.**—LEMAN B. PITCHER, Salina, N. Y.—*Roller Wheel for Plows.*—November 19, 1867.—The axle is cast with the roller and is journaled in the cups set in the segment frames. The rims of the cups enter cylindrical cavities in the sides of the roller.

*Claim.*—First, the segment frames B B and the cups C C when applied to a roller wheel for plows and cultivators, each separately and in combination with each other, substantially as and for the purposes described.

Second, the same parts, in combination with the roller wheel A operated upon the shafts a a, substantially as and for the purposes described.

**71,058.**—J. POLHEMUS, Jersey City, N. J., and CHRISTIAN H. LILIETHAL, Yonkers, N. Y., assignors to C. H. LILIETHAL, Yonkers, N. Y.—*Apparatus for Printing on Tin Foil.*—November 19, 1867.—The tin foil is carried from the cylinder on which it is wound between the printing and pressure cylinders and is separated from the cylinder and runs over the wedge-formed shell. From the shell the sheet passes beneath the intermediate knife and the separate sheets are borne off by the endless bands.

*Claim.*—First, in combination with a continuous sheet of tin foil and shell J the intermittent shear cutter P, or equivalent therefor, operating as hereinbefore set forth and for the purpose described.

Second, in a printing press for printing on a continuous sheet of tin foil the combination of the intermittent shear cutter with the series of rollers U and bands T, for the purposes hereinbefore set forth.

**71,059.**—GEORGE W. PRESTON, Corning, N. Y.—*Horse Block and Hitching Post.*—November 19, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combined horse block and hitching post, substantially as above set forth and described.

Second, the said combined horse block and hitch-

ing post, in combination with the hand rail C, substantially as described.

Third, the said combined horse block and hitching post, in combination with the scraper E, substantially as described.

**71,060.**—C. L. ENGLISH, Cincinnati, Ohio.—*Bellows.*—November 19, 1867.—The inner end of the bellows spout is flaring and a collar bears against the front end of the spout socket.

*Claim.*—A bellows having a pipe with a tapering or flaring butt B<sup>1</sup> and shoulder or collar B<sup>2</sup>, applied and operating in the manner and for the purpose set forth.

**71,061.**—HORACE H. PRINDLE and JOHN W. PRINDLE, Sandusky, Ohio.—*Childrens' Carriage.*—November 19, 1867.—The fore end of the body is hinged to the tongue and its rear end is supported on a spiral spring upon the axle. A guide rod passing vertically through the axle is hinged to a disk turning in an annular seat upon the body. The disk may be turned 90° to either allow lateral rocking of the carriage or to hold it rigidly as to side movement.

*Claim.*—First, attaching the body of the carriage to the running gear by means of joints, one of which is adjustable and so applied that the carriage can be converted into a cradle, substantially as described.

Second, the combination of the spring f, or its equivalent, with an adjustable joint a' and front joint i, substantially as and for the purposes described.

**71,062.**—ABRAM REES, Pittsburg, Pa.—*Shaping Dies of Grooved Rolls.*—November 19, 1867.—Horse-shoe or other blanks are formed between the rolls, one of which has a collar susceptible of motion laterally or lengthways to form the blank in proper proportions.

*Claim.*—The die formed by the face of the roll a, the collar i, and the spring collar d, substantially as and for the purposes hereinbefore described.

**71,063.**—LEONARD REPSHER, Camden, N. J.—*Railway Chair and Sleeper.*—November 19, 1867.—The ends of the coupling bar are turned up around the outer edges of the rails, and their upper edges connected by bolts passing through the rails to plates secured to the said bar on the other side of the rails.

*Claim.*—First, the combined sleeper and chair, consisting of the coupling bar B and clamps D D, the whole being constructed and arranged substantially as and for the purpose herein set forth.

Second, the recesses i in the coupling bar B, for the purpose set forth.

**71,064.**—J. C. RHODES, South Abington, Mass.—*Nail Plate Holder.*—November 19, 1867.—The holder is a bifurcated piece of metal, the prongs of which are sprung apart to receive the plates, which are held by their edges. The nose piece is so formed that the holder can enter it to its outer edge.

*Claim.*—For employment in a nail or tack machine, the combination of plate holder and nose piece, when constructed and arranged to operate substantially as described.

**71,065.**—R. W. ROBINSON, Clinton, Ill., assignor to himself and JAMES O'DONALD.—*Churn Dasher.*—November 19, 1867.—The vertical shaft has radial arms, carrying vertical dashers whose flattened ends incline rectangularly to each other and to the wing of the dasher immediately following.

*Claim.*—A churn dasher having floats, with the planes of their blades set parallel with the axis of the spindle A and obliquely to the planes of a radius passing through their axes and through the axis of the spindle, substantially as and for the purpose set forth.

**71,066.**—SILAS ROGERS, Stanfordville, N. Y.—*Thill Coupling.*—November 19, 1867.—The socket of the thill iron is placed on the hook of the clip, which is turned back so far that the thills cannot be removed except when in a vertical position. A projection on the hook sustains the thill ends above the ground.

*Claim.*—The thill coupling, constructed as described, consisting of the upward projecting hook C, formed upon the clip, and the eye E upon the thill iron D fitting over said hook, when the outer side of said eye is provided with the packing F working



against the outer side of the hook, as herein described for the purpose specified.

**71,067.**—C. W. ROYSE, Peterborough, N. H.—*Chair Bottom*.—November 19, 1867.—Explained by the claim.

*Claim.*—Fastening or securing the overlapping ends of the strips of the net work of chair bottoms passed over and under the frame, by means of staples, as above set forth and described.

**71,068.**—CHARLES RUNDQUIST, Mankato, Minn.—*Branding Iron*.—November 19, 1867.—The branding tool has removable iron letter blocks.

*Claim.*—First, the combination of the types having tapering shanks I and plates H, the pins J, side bars E, end pieces F, set screw M, blocks L, arms C, and handle B, all constructed as described, for the purpose specified.

Second, the types constructed as described, provided with the back plates H and tapering shanks I, secured in the holder by means of the transverse pins J and blocks L, the latter secured in position between the types by means of the central curved arms C, as herein shown and described.

**71,069.**—SAMUEL A. RUSSELL, Huntington, Conn.—*Fruit Seeder*.—November 19, 1867.—The frame is clamped to the edge of the table. The cherry is placed in the cup and the follower depressed to drive the seed through the axial perforation in the cup bottom.

*Claim.*—The arrangement of a cutter E having its edge formed in the manner substantially as described, with the follower a, and combined with the seat D, so as to operate in the manner set forth.

**71,070.**—J. M. SAMPSON, Waynesville, Ill.—*Corn Planter*.—November 19, 1867.—The machine is arranged to plant two rows. The seed slides are operated by hand, the cavities receiving seed when in communication with the hopper and discharging it into a side passage, from which it falls into the elastic spout, and is ejected therefrom by the descending end of the seed slide.

*Claim.*—The plungers E fitted in openings c in the posts or standards D D, and provided with seed-cells or openings f in combination with the openings c in the posts or standards and the elastic plates i, all arranged to operate in connection with the hoppers K K and covers O, substantially in the manner as and for the purpose set forth.

**71,071.**—ULRICH SCHEGG, Nauvoo, Ill.—*Press*.—November 19, 1867.—The barrel on which the pressure rope is wound has weighted levers turning thereon and connected thereto by ratchet wheels and pawls. After the follower has been sufficiently depressed by oscillation of the levers, the weights are connected to their ends and exert a constant pressure on the follower.

First, the combination and arrangement of the levers F, the ratchets E', and the weights w, substantially in the manner and for the purpose set forth.

Second, the combination of the roller E, the ratchets E', and the tackle H h, substantially in the manner and for the purpose set forth.

Third, the combination and arrangement of the follower D, the cords I, and the roller I', substantially as described and set forth.

**71,072.**—ACHILLE SMITHE and HILAIRE ANDRÉ LEVALLOIS, Paris, France.—*Alloy to Imitate Silver*.—November 19, 1867.—Composed of copper, 1000; nickel, 700; tungsten, 50; and aluminum, 10 parts.

*Claim.*—First, the new alloy, so-called mock silver, (ninargent,) composed of different metals, as described.

Second, introducing in our so-called mock silver unalloyed tungsten, unalloyed aluminum and a considerable proportion of nickel, the anti-affinity of which for aluminum is well known, and which we have made alloyable.

Third, and we claim not only the above-mentioned typic proportions, but also any proportions which will answer the purposes.

**71,073.**—D. B. SKELLY, Lockport, N. Y.—*Burglar Alarm*.—November 19, 1867.—The trigger bar is

connected by a cord to any point of danger, and when withdrawn causes the discharge of a pistol, lighting of a lamp, and ringing of a bell.

*Claim.*—First, the combination of the bell spring C, the plate E, the hook r and the pin a, the springs G and H, the hook F, and the trigger J, arranged and operating substantially as shown and described for the purposes set forth.

Second, the combination of the stud O, the arm P, the hook P', and the hammer N, arranged substantially as described for the purpose specified.

Third, the stud L, in combination with the lamp D, and plate E, substantially as and for the purpose set forth.

Fourth, the combination of the springs G and H, and the trigger J, as and for the purposes described.

**71,074.**—D. M. SMYTH, Orange, N. J., assignor to O. P. DORMAN, New York, N. Y.—*Machine for Cutting Paper Collars*.—November 19, 1867.—The collars are cut from a sheet whose width equals the length of the collar required. The sheet is fed automatically to three shears, one of which cuts off the rectangular blank and the others bevel the corners.

*Claim.*—The combination of the two pairs of hinged shears for shaping the ends of paper collars, with the pair of shears for cutting off the collars from a strip or sheet of paper, and the feeding mechanism, or the equivalent thereof, substantially as described.

Also, the toothed wheel with its holding pawl, and connected with the sliding reciprocating frame by a spring arm, or equivalent, in combination with the holding clamp, substantially as and for the purpose described.

**71,075.**—W. SPILLMAN, Marion Station, Miss.—*Bullet Machine*.—November 19, 1867.—The rotating disks have eccentric grooves cut in their peripheries and act in connection with the cams, impinging rollers and stationary dies to compress the cylindrical blanks which are fed into the machine, into spherical or conical balls, as desired.

*Claim.*—First, the combination and arrangement of the forming roller C, the stationary die D, and the eccentric F, constructed and operating substantially as and for the purpose herein described.

Second, the shear knife B, operated by the eccentric F, combined with the catch d, operated by the tappet e and the spring g, as and for the purpose specified.

Third, the forming roller C', combined with the rollers G G', the bent lever H, the cam I and the spring a, constructed and operating substantially as and for the purpose set forth.

**71,076.**—CHARLES SPOFFORD, Boston, Mass., assignor to himself and SAMUEL T. LAMB, same place.—*Adjustable Die for Cutting Paper Collars and other Articles*.—November 19, 1867.—Improvement on patent of Geo. K. Snow, November 28, 1865. The dies have extensible end blocks, and the cameo die has removable blocks to occupy the space between its adjustable ends.

*Claim.*—The within-described adjustable die, constructed substantially as and for the purpose set forth.

**71,077.**—JOSEPH F. STAFFORD, North Granville, N. Y.—*Damper*.—November 19, 1867.—The damper is suspended on a rod near the chimney-top, and has an arm connected by a rod and chain to a shaft near the ground. The damper is adjusted by rotation of the shaft.

*Claim.*—The damper B suspended upon a pivot a, and weighted at E, so as to assume a vertical position by gravity, and employed in connection with the elevating and sustaining apparatus D F G H I J, as and for the purpose set forth.

**71,078.**—WILLIAM STARKY, Bridgeport, N. J., assignor to himself and E. L. REEVES, Paulsboro, N. J.—*Attaching Thills to Carriages*.—November 19, 1867; antedated November 8, 1867.—The inner faces of the clip socket have slots extending upwardly which allow the passage of the flattened side pins of the thill iron, when the thills are vertical. Withdrawal is prevented while the thills are in working position.

*Claim.*—The block B, with its projections d d, their openings e e, and recess c, in combination with the



bar A and its ping *b*, the whole being constructed, arranged and operating as described.

**71,079.**—C. V. STATLER, Woodhull, Ill.—*Combined Shrinking and Punching Machine*.—November 19, 1867.—The tire is gripped in the blocks by the serrated cams, and the moving block by a lever cam. For punching, a die bar and punch block are secured to the machine, and the latter actuated by the lever cam.

*Claim.*—First, the bar B, the gripe blocks D and E, with their levers *k k'*, the kink block G, and the eccentric lever J, when the same are constructed, arranged, and combined, substantially as shown and described and for the purposes set forth.

Second, in combination with the upsetting device set forth in the preceding claim the arrangement, as described, of the punch and punch block C.

**71,080.**—N. C. STILES, Meriden, Conn., and JOHN S. MILLER, Springfield, Mass., assignors to NORMAN C. STILES.—*Drop Press*.—November 19, 1867.—The ascending side of the revolving belt passes through a hole in the hammer block and is alternately engaged to and released from the block by a transversely sliding wedge, which is actuated by projections adjustably secured to the guide standards.

*Claim.*—First, the endless belt D of leather, or analogous material of uniform character, in combination with the hammer E and with the wedge G, or its equivalent, for directly connecting and disconnecting the hammer, the whole being combined and arranged substantially as and for the purposes herein set forth.

Second, the tripper I' and suspending stop J, mounted together on the movable block I, so that both the tripper and the stop may be adjusted at the various heights required by a single operation, substantially as and for the purpose herein specified.

Third, the provision for dropping the hammer at will at any desired lower point than the tripper I', the same consisting of the piece L, standing always parallel with the motion of the hammer, and moved against the wedge G, or its equivalent, at the desired moment, irrespective of the elevation of the hammer at that moment, substantially as and for the purpose herein set forth.

Fourth, the weighted stem R, or its equivalent, operating as specified, in combination with the wedge G, or equivalent device, operated by the said stem and with the hammer E and belt D, causing the hammer to be firmly connected to the belt by the act of striking on the object below, so that when the object struck is high the belt will be seized at a corresponding level, and as the object is hammered down or turned over, so as to cover the upper surface, the belt will be seized at a corresponding lower level, all substantially as and for the purpose herein set forth.

Fifth, the adjustable front piece A<sup>3</sup>, in combination with the guides A<sup>1</sup> A<sup>2</sup>, having grooves of the form specified, and with the holding means A<sup>4</sup> and adjusting means A<sup>5</sup>, all arranged for joint operation in connection with the hammer E, or its equivalent, substantially as and for the purposes herein specified.

**71,081.**—ENOS STIMSON, Montpelier, Vt.—*Door and Gate Spring*.—November 19, 1867.—A spiral spring in the door jamb connects with a similar one in the door, and they combine to close the door.

*Claim.*—First, the springs D and rock shaft C, in combination with the slotted main castings B, substantially as described, in combination with the clasps F, in manner and for the purposes substantially as herein shown and described.

Second, the loose pulleys E, in combination with the springs D and rock shaft C, substantially as herein shown and described.

Third, the stop *g*, in combination with the main castings B and rock shafts C, substantially as herein set forth and described.

**71,082.**—JACOB STROBECK, Parishville, N. Y.—*Churning Butter*.—November 19, 1867.—The dasher has a series of spirally-placed bars, which pass between the horizontal breakers on a removable frame. A slat passes through the dasher just beneath the lid to scrape the cream therefrom.

*Claim.*—The construction and application of the scraper H, the arrangement of the breakers *iii i*, with

the means of adjustment and form of the dasher blades and mode of attachment to the shaft F, in combination, as shown and described.

**71,083.**—W. W. SUTLIFF, Town Line, Pa.—*Gate Spring*.—November 19, 1867.—The curved plate spring has one end hinged to the gate, the other resting in a notch of a ratchet plate on the post. The tension of the spring is regulated by changing its end to another notch.

*Claim.*—The flat curved spring *a*, hinged to the gate A, and secured at one end in the notched block *b*, arranged and operating as and for the purpose specified.

**71,084.**—JOHN SYNNOTT, San Francisco, Cal.—*Writing Apparatus for the Blind*.—November 19, 1867.—The tablet supports the paper which is clamped thereon by the hinged frame which is brought down upon it. The frame has side slots to receive the ends of the guide rods. The lower guide rod is square and has measuring blocks sliding upon it.

*Claim.*—First, the tablet, with pins *b b* and the hinged frame B, with notches or slots *a a*, substantially as described for the purpose set forth.

Second, the bars E F and the measuring block H with the pin I, together with the following block G, with its projections *c* and lug *d*, substantially as and for the purposes described.

**71,085.**—J. F. TAPLEY, Springfield, Mass.—*Bronzing Machine*.—November 19, 1867.—The sheets are carried by the drum beneath the reciprocating brushes which lay on the bronze powder, and are then dusted and automatically discharged.

*Claim.*—First, in combination with a drum for carrying the paper, one or more reciprocating pads or brushes for spreading the bronze or color.

Second, arranging a revolving brush within the feed box for the purpose of feeding the bronze on the sheet through openings in the bottom of the box.

Third, the feed box C, with revolving brush, having the roll G, operated by the cam E upon the cylinder or drum A, arranged as described.

Fourth, the gate K, operated by the cam E upon the drum A, as and for the purpose described.

Fifth, the springs *o*, in combination with the reciprocating pads *a a*, &c., as and for the purpose described.

**71,086.**—J. THOMPSON and B. B. HERRICK, Edgewood, Ill.—*Machine for Digging Post Holes*.—November 19, 1867.—The post auger is journaled in a frame and rotated by a winch. It is raised by a chain, which passes over a sheave and around a windlass barrel.

*Claim.*—First, the shovel U, hung to roller V by means of levers W, and operated by means of lever Z, rod X, and crank *y*, for the purpose of catching the dirt drawn out by auger E, substantially as herein specified.

Second, the combination of the standards B, having a slot L, with sash C, shovel U, and auger E, arranged and operating as herein described.

Third, the combination of the capstan N, pawl T, sash C, standards B, shovel E, levers W Z, rod X, and crank *y*, substantially as and for the purpose set forth.

**71,087.**—T. HENRY TIBBLES, Kansas City, Mo., assignor to himself and F. L. McHENRY, same place.—*Hand Loom*.—November 19, 1867.—The shuttles and harness are both operated by the lay, which is made removable.

*Claim.*—First, the single upright picker staff *a*, the sliding weight *g*, and the straps *b* and *h*, in combination with the lay C, the breast beam D, and the drivers *d d*, constructed, arranged, and operating substantially as and for the purpose described.

Second, the cam rollers *k k*, operated by the bent lever *q* as described, in combination with the heddles B, and the lay C, operating as and for the purpose herein specified.

**71,088.**—JOHN TURNER, Grand Haven, Mich.—*Stump Extractor*.—November 19, 1867.—The pawls engage the ratchet teeth of the lifting bar on each side alternately, receiving motion from the oscillating head.



*Claim.*—The combination of the frame A, with the working beam B, the levers C C hung upon the bearing D D, the braces E E, the links F F, the double rack G, the chains or ropes H H, the blocks I I, and the hook K, all arranged substantially as described for the purpose designed.

**71,089.**—F. WALTER, St. Louis, Mo.—*Confectionery.*—November 19, 1867.—A confection is formed in the shape of an egg. A picture is placed within it and a magnifying glass in one end affords a dioramic view.

*Claim.*—The egg A, when combined and arranged with the ornaments B B', and the magnifying glass b, as described and set forth.

**71,090.**—HORACE WARNER, Lake City, Minn.—*Washing Machine.*—November 19, 1867.—The tub bottom has notched radial ribs. The presser is supported on a vertical shaft and has a radial series of conical-ribbed rollers. The roller ribs are notched similarly to the bottom ribs. The shaft is rotated by a winch.

*Claim.*—The hanger driving shaft K with arms L attached, the quadrangular sliding framework E, with the spring catches H, and pressure spring S, the improved manner of constructing ribs c and rollers m, by cutting transverse notches upon their elevations, and the combination and arrangement of the whole for the uses and purposes herein specified.

**71,091.**—J. WASSON, Elyria, Ohio.—*Machine for Cutting and Forming Wire.*—November 19, 1867.—The wire is fed by rollers through the circular guide pipe and presented to the shearing knife which cuts off the lengths required.

*Claim.*—A machine for forming and cutting wire for tinner's and other purposes, constructed mainly of the guide marked B, the rollers E, the gearing D, the shaft D', the knife C, and the stand G, or their equivalents, arranged substantially as described.

**71,092.**—A. W. WEBSTER, Ansonia, Conn.—*Fastening for Corsets.*—November 19, 1867; antedated November 9, 1867.—The ends of the wire form clenched hooks upon the fabric and the loop engages the stud on the other portion of the corset.

*Claim.*—A corset fastening, composed of the wire A, attached to the busk by its own ends, substantially as described and for the purpose set forth.

**71,093.**—STANTON D. WARNER, Richmond, Ill., assignor to himself, JONATHAN S. ROBINSON, JOHN BLACK, and E. B. BREWSTER.—*Threshing Machine.*—November 19, 1867.—Teeth upon endless chains running over rollers, act in combination with longitudinally reciprocating toothed plates, and to these plates are connected notched bars operating as straw conveyers.

*Claim.*—First, the adjustable plates A A of straight or curved-shape, constructed as described, provided on their inner sides with graduated teeth of the described shape, and operated in a reciprocating or vibrating manner by means as described, or their equivalent means, substantially as herein set forth.

Second, the endless apron cylinder G, provided with flat triangular prongs L L for the purpose described, and operating in combination with the adjustable vibrating plates A A, as described and specified.

Third, the notched flexible bars or rods H H attached to the rear end of and combined with the vibrating plates A A, arranged and operating substantially as herein set forth.

Fourth, the wire jog sieve N or sieves, constructed and operating as described, in combination with the vibrating plates A A.

**71,094.**—JOSEPH B. WARREN, South Danvers, Mass., assignor to GEORGE MELCHER, Salem, Mass.—*Fountain Brush.*—November 19, 1867.—The cylindrical reservoir has an extension of its sides in form of a socket, to receive the block of a circular brush. The cylinder bottom and block are perforated centrally for passage of paint, and the perforation stopped by a valve plate having a rubber or leather seat on each side.

*Claim.*—An improved fountain brush, having not only a duplex padded valve as described, but two

perforated bearing plates or seats thereto, and the valve, or a projection from it to turn on a center between such seats, and extend through an opening or slot in the side of the case substantially in manner and so as to operate as specified.

Also, the brush fountain, as made not only with a socket to receive the brush in manner as described, but with the two valve seats, and a valve arranged between and so as to operate with them in manner substantially as explained.

**71,095.**—J. WEIDENMAN, Hartford, Conn.—*Rubber Shoe.*—November 19, 1867.—The heel is stiffened by a vertical plate having attached thereto a curved piece to grasp the heel, and a forward extension from its lower end passing beneath the heel.

*Claim.*—First, the bar A, having a strap a' formed upon its lower end, and attached at its upper end to the rear part of the rubber shoe, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the curved arms B with the bar A, substantially as herein shown and described and for the purpose set forth.

**71,096.**—AUGUSTUS WEITMAN, West Union, Iowa.—*Broadcast Seeding Machine.*—November 19, 1867.—The seed agitator consists of a reciprocating knotted rope; the seed passes through an adjustable longitudinal opening, runs down the inclined board and drops between the two harrows. The rear harrow is followed by the roller on which the machine is supported.

*Claim.*—First, providing the harrows L M M, any or all of them, with cleaning bars k N, arranged or applied in the manner substantially as and for the purpose set forth.

Second, the combination of the seed box D with its perforated bottom and slide E, adjustable bar K, discharge board J, and roller C, all arranged substantially in the manner as and for the purpose set forth.

Third, the reciprocating knotted rope I, or its equivalent, operated by the frame G, from the roller C, in combination with the adjustable bar K, and the discharge board or plate J, all arranged substantially as and for the purpose specified.

Fourth, the harrows L M M, combined, constructed, and applied to the machine substantially in the manner as and for the purpose set forth.

**71,097.**—PELEG WERNI, Chicago, Ill.—*Harvester.*—November 19, 1867.—The sickle is made in sections which are jointed together to form an endless cutter which is supported and revolved by rotating sheaves.

*Claim.*—The combination and arrangement of an endless revolving sickle L, sheaves J K, gear wheels G H, shafts F B, wheels C E, and chain D, clutch Z, arm Y, and levers V, operating in the manner and for the purposes set forth.

**71,098.**—PELEG WERNI, Chicago, Ill.—*Harvester Rake.*—November 19, 1867.—The rake arm is gimbal jointed to the frame, and is oscillated by projections on the side of the disk upon and rotating with the reel shaft. The rake arm passes through a slot in the supporting arm. When at its backward position the rake arm falls into a notch in one side of the slot, and is raised by the supporting arm clear of the grain in its forward movement. When brought over the forward part of the platform the rake arm falls out of the notch and descends by its weight into the operative position.

*Claim.*—First, the plate or disk A, in combination with the bars B and C, and the arm H of the rake, when constructed and operating substantially as and for the purposes described.

Second, in combination with the arm H of the rake, the supporting arm M pivoted at h, about which point it has a vertical movement, carrying the rake in both the effective and non-effective stroke, substantially as and for the purpose set forth.

Third, the combination of the said rake arm H, and swinging supporting arm M, pivoted as aforesaid, with the rollers I J, and their connection K, arranged in the manner set forth, and operating as described.

Fourth, the combination of the revolving plate A, provided with projections a b, the arms B C, the rake arm H provided with a double joint as described, and



the movable supporting arm M, arranged and operating as and for the purposes specified.

**71,099.**—EDWARD M. WESTON, Providence, Pa.—*Corrugated Iron Revolving Coal Screen*.—November 19, 1867.—The corrugated sieve is of perforated sheet metal, and is rotated to sift the ashes.

*Claim.*—Constructing a revolving iron coal screen with corrugated sides, substantially in the manner and for the purpose herein described.

**71,100.**—DENNIS WETZEL, Springfield, Mo.—*Machine for Bending Tires*.—November 19, 1867.—The end of the tire is elamped to a large roller, and by its rotation is drawn between it and another roller. The roller is rotated by a lever, whose hooked end engages pins on the side of the roller.

*Claim.*—First, the double-rimmed wheel B and double-rimmed roller E, disposed in frame A, substantially as above set forth and described.

Second, the wheel B and roller E, in combination with the spring F, arranged and operating as and for the purposes substantially as above set forth and described.

**71,101.**—WILLARD P. WHITE, Orland, Me.—*Lubricator for Carriage Wheel Bearings*.—November 19, 1867.—The stem of the cylindrical oil cup is screwed into the hub, and the oil forced into the box by the screw-threaded plunger.

*Claim.*—The wheel-greasing or lubricating apparatus, as described, that is, as composed of the cylindrical cup A, the cover B, and the plunger C, with their connection screws *c d* and discharge passage *b*, or the same and the screw *a*, the whole being arranged substantially as explained.

**71,102.**—JOHN WILEY, 2d, South Reading, Mass.—*Car Brake and Starter*.—November 19, 1867.—Improvement on his patent, March 12, 1867. The brake bar has arms passing above and below the friction wheel, upon the axle. This friction wheel has ratchet teeth engaging similar teeth on the upper arm of the brake bar. The brake bar is forced up against the friction wheel to stop the car and contract the spring. For starting, the ratchet teeth of the wheel and arm are engaged by depressing that end of the brake bar, and the spring acts to start the car.

*Claim.*—First, the combination and arrangement of the toothed bar S, arms *g*<sup>1</sup> *g*<sup>2</sup> of the brake bar G, toothed friction wheel F, lever O, connecting rods N, yokes L, roller M, frame E, axle D, and shaft I, substantially as described for the purpose specified.

Second, the combination and arrangement of the treadle pin V, treadle lever U, spring X, roller W, arms *g*<sup>1</sup> of brake bar G, toothed bar S, and frame E, substantially as described for the purpose specified.

Third, the combination of the draft bar J, connecting strap K, spring H, brake bar and ratchets G, with each other and with the frame E of the car, substantially as herein shown and described and for the purpose set forth.

**71,103.**—J. M. WILLBUR, Cleveland, Ohio.—*Painting Apparatus*.—November 19, 1867.—The machine may be run by clock work. The cylindrical stereotype plate is first cast flat, and then bent to cylindrical form, and used upon a roller. The ink is contained in a perforated cylinder closely covered by a similar cylinder; the supply of ink is regulated by the sliding of one cylinder on the other, which movement is effected by a set screw. The ink-distributing surface consists of an endless rubber apron. The speed of the machine is regulated by a ball governor.

*Claim.*—First, the governor device *k*, constructed in the manner described to operate as and for the purpose set forth.

Second, the cylindrical ink holder F, constructed in the manner described, to operate in the manner shown as and for the purpose set forth.

Third, the driving mechanism, when regulated by the governor device *k*, constructed as described, and combined with a printing machine, substantially as and for the purpose set forth.

Fourth, the cylindrical removable stereotype D, provided with the changeable dating-type X, and permanent inscription W, when used in combination with the automatic printing machine described, as and for the purpose set forth.

**71,104.**—J. M. WILLBUR, Cleveland, Ohio.—*Stereotype Casting*.—November 19, 1867.—Perforated disks fit upon the ledges, and the molds are placed between the disks with their cavities beneath. The whole is heated to the temperature of molten metal, and the metal poured in.

*Claim.*—The stereotype pan A, provided with the ledges *a a*, in combination with the plates B B, constructed substantially as and for the purpose set forth.

**71,105.**—J. M. WILLBUR, Cleveland, Ohio.—*Hand Stamp*.—November 19, 1867.—The surface of the stereotype plate is made slightly convex, so as by a slight rocking motion to give a clear impression of every part.

*Claim.*—Forming the printing surface A of a hand stamp, in the manner described and for the purpose set forth.

**71,106.**—EDWARD WILLIAMS, New York, N. Y.—*Safety Attachment for Pockets*.—November 19, 1867.—The neck of the watch pendant is received in the clasp ring, whose back bar is continuous, but whose fore part has a hinged and a sliding jaw. The jaws give way to the entering pendant, and the sliding jaw is retracted by a rod extending through the side of the pocket for its removal.

*Claim.*—The safety attachment for watch pockets herein described, the same consisting of the holder B, having two jaws F and G, the one swinging upon a hinge joint and held in proper position by a spring, and the other moving in a sleeve in part D, and actuated by a spiral spring, the whole arranged and combined to operate substantially as specified and for the purpose set forth.

**71,107.**—CHARLES WILLS, New York, N. Y.—*Securing and Releasing Horses*.—November 19, 1867.—The hitch-ring is passed into a case let into the front of the stall. The case is traversed by a spring bolt which engages the ring. The bolt is drawn back to disengage the ring by a lever at the side of the stall, or a knob at the rear post, having flexible connection to each.

*Claim.*—The spring bolt A, in combination with wire B, pitch chain B<sup>1</sup>, plate F, ring B<sup>2</sup>, angle piece G, and knob H, substantially as and for the purpose herein specified.

**71,108.**—EDWIN WILMONT, Laona, N. Y.—*Paper Making Machine*.—November 19, 1867.—The pulp is brought up from the vat by an endless gauge apron, is compressed by rubber rollers, and taken from the apron to pass between other rollers to the drying cylinders.

*Claim.*—First, the employment of two or more rubber rollers, in combination with the endless apron C, substantially as and for the purpose set forth.

Second, the rubber rollers F F, in combination with the metallic or wooden roller I, for the purpose of giving additional pressure to the paper, substantially as and for the purpose set forth.

Third, the employment of the rollers H H' and L, substantially as and for the purpose described.

Fourth, in combination therewith, the rubber rollers F F and metallic or wooden roller I, substantially as and for the purpose set forth.

**71,109.**—GREG W. WISWELL, Pilot Knob, Mo.—*Boiler Cleaner*.—November 19, 1867.—The wide end of a tapering pipe passes through the boiler head just beneath the water level; and its smaller end projects into the boiler through the lower part of the head, and is flattened to cause a horizontal expansion of the current of water for washing the sediment to the rear end of the boiler; from thence it may accumulate in the mud drum, be blown out through the stand pipe, or removed through a man-hole or hand-hole.

*Claim.*—The construction and arrangement of the pipe B, with reference to its tapering dimensions and its flattened end *b*<sup>2</sup>, when applied to the boiler A, as described and shown.

**71,110.**—LINUS YALE, Jr., Shelburne Falls, Mass.—*Burglar Proof Safe*.—November 19, 1867.—The joint around the door is grooved out nearly to the outer rabbet. The groove is sufficiently obtuse to prevent the biting of a wedge against its sides.



*Claim.*—Making an open space between the edges of the door and the door frame, substantially as and for the purpose specified.

**71,111.**—JAMES S. ZANE, Pleasant Plains, Ill.—*Snow Plow.*—November 19, 1867.—The elevated, vertically-adjustable mold board has segmental racks engaging pinions upon a rod having clutch connection, when desired, with supporting wheels, to raise the said mold board in deep snow, and to lower the same in passing beneath bridges.

*Claim.*—First, the double mold board D hinged at the upper end of the inclined planes A A, to be raised and lowered as and for the purpose herein described.

Second, the arrangement of the inclined planes A A forming a ridge in the middle, the vertical cutters s s and the movable cutter p, substantially as described.

**71,112.**—CHARLES E. ABBOTT, Malden, Mass.—*Lamp Extinguisher.*—November 19, 1867.—Improvement on his patents, July 3, 1866 and November 13, 1866. A sleeve on the wick tube has a hinged cover to act as an extinguisher when the sleeve is in its upper position. The sleeve is raised and the extinguisher plate put in acting position by a lever whose end extends outside the chimney support.

*Claim.*—First, the arrangement for conjoint operation of the tongue t and finger m, as and for the purpose set forth.

Second, the spring s in combination with the pin i and lever h, arranged and operating as specified.

Third, the stop-notch n on lever h, operating as and for the purpose described.

**71,113.**—BARNABAS B. ALFRED, La Grange, Ga.—*Cotton and Hay Press.*—November 19, 1867.—The press box is raised by a double foot-screw, whose sections are right and left hand, so as by a single motion to unwind both serews. The sides of the box are jointed to toggle levers, by which the follower is depressed.

*Claim.*—First, the combination of the slotted levers L L with the box D, blocks e e and follower F, substantially as and for the purposes specified.

Second, the combination of the parts referred to in the foregoing claim with the double acting compound screw C C', substantially as and for the purposes set forth.

**71,114.**—GEORGE ALLIX, Saint Heliers, Island of Jersey.—*Apparatus for Raising and Lowering Window Blinds and Curtains.*—November 19, 1867; patented in England, December 21, 1866. The chain passes through the ring-headed bolt and drops into a catch slot on one side of the socket by which it is engaged. It may be withdrawn from the slot by a lever.

*Claim.*—First, the combination of the slit, guide, and chain, arranged with reference to each other and a window blind, curtain, &c., so as to operate substantially in the manner set forth, the combination being substantially such as described.

Second, the combination of the slit, guide, and chain with the lever, which, when lifted, moves the chain out of the slit, the combination being substantially such as herein set forth.

**71,115.**—J. K. ANDREWS, Antrim, Ohio.—*Dinner Plate.*—November 19, 1867.—The plate is divided by ribs into spaces for various kinds of food.

*Claim.*—A plate provided with partitions in the center and with a rim in the usual form, for the purposes set forth.

**71,116.**—J. K. ANDREWS, Antrim, Ohio.—*Buckle.*—November 19, 1867.—The buckle has a three-cross bar frame with a downwardly projecting pin, and has a plate attached to its side bars with upwardly projecting pins. These pins pass through holes in the strap.

*Claim.*—The plate A formed substantially in the manner herein represented, for the purpose of confining together straps without stitching or riveting, as herein fully set forth.

**71,117.**—WILLIAM APPLETON, Albany, N. Y.—*Malt House or Kiln.*—November 19, 1867.—Air for

supply of the furnace is drawn through the malting chamber in such quantities as to assist in regulating the temperature.

*Claim.*—First, the induction of a current or currents of air over the malt floor by means of draft pipes or tubes G connecting said floor or chamber with the heating chamber of the kiln and in drying the malt, substantially as and for the purposes specified.

Second, the combination of the flue S with the flue G to the malt floor C and heating chamber F, for operation together as herein set forth.

Third, the flue N in combination with the heating chamber F, malt floor C, and flues G and S, for action in concert as specified.

**71,118.**—JOSHUA B. ASHLEY, New Bedford, Mass., assignor to himself and J. AUGUSTUS BROWNELL, same place.—*Carriage Spring.*—November 19, 1867.—The end bolts of the springs are surrounded by an annular rubber block.

*Claim.*—The spring C<sup>2</sup> and linking plate E<sup>2</sup> and clip iron D<sup>2</sup>, in combination with the packing A<sup>1</sup> A<sup>2</sup> and bolts B<sup>2</sup> B<sup>2</sup>, all arranged and applied substantially as and for the purpose described.

**71,119.**—JAMES E. ATWOOD, Trenton, N. J.—*Artificial Fuel.*—November 19, 1867.—Explained by the claim.

*Claim.*—Artificial fuel composed of coal tar, coal dust, peat and lime, substantially as described.

**71,120.**—WILLIAM BAILEY, New York, N. Y.—*Apparatus for Making Stamp Gilt Paper Hangings.*—November 19, 1867; antedated July 27, 1867. The pattern cylinder has movable plates and is heated by steam, which is passed through its tubular journals. The registering belt has eyes through which keys are passed to secure the paper. The boxes of the pattern cylinder are adjustable in respect to the impression cylinder.

*Claim.*—First, the combination of the rotating impression cylinder, the rotating pattern cylinder, and the heating apparatus, or the equivalent thereof, as specified, for supplying the pattern cylinder with heat.

Second, the combination of the rotating impression cylinder and the rotating pattern cylinder with the devices, or the equivalent thereof, substantially as described for securing and adjusting the pattern plates on the pattern cylinder.

Third, the combination with the impression and pattern cylinders of a registering belt, constructed and used substantially as and for the purposes herein specified.

Fourth, the special devices herein described for securing the pattern plates to the cylinder.

**71,121.**—JAMES BARWICK and SAMUEL TINDALL, Silvertown, England, assignors to themselves and CHARLES T. DEFOREST, Stamford, Conn.—*Piston Packing for Steam Engines.*—November 19, 1867.—A mixture of vulcanite and oil alternates with layers of hempen packing.

*Claim.*—The application and use, for the purposes hereinbefore described, of hard india-rubber, or its equivalent, mixed with oil or grease, substantially as herein set forth.

**71,122.**—JOHN BEAN, Hudson, Mich.—*Pump.*—November 19, 1867.—The pump rod has a perforated disk at its lower end by which the bucket is raised. The bucket is formed of vertical wooden staves confined by a rubber band at their lower ends. The lower part of the bucket covers the perforations on the disk when ascending. The water passes through a fixed valve above the bucket, and up through an axial pipe surrounded by an annular air chamber.

*Claim.*—The pump constructed with the cylinder D, formed of staves held together by india-rubber bands, and the tube E in the chamber of the pump stock, and with the diaphragm G and the rod B, as and for the purposes herein set forth.

**71,123.**—NORBERT BELVALLETTE, Paris, France.—*Latch for Carriage Doors.*—November 19, 1867.—The pendent handle is hung to the end of a lever within the lock; the lever has a projection entering a cavity of the bolt and operating the same.



*Claim.*—A pendent handle or tassel of any material acting upon a carriage lock with a lever or other apparatus, in place of the fixed handles at present in use inside of carriages.

**71,124.**—WILLIAM BETTS, Wharf Road, England.—*Metallic Capsule for Bottles.*—November 19, 1867.—The trade mark is stamped or printed on a portion of the capsule, which is necessarily destroyed in removal.

*Claim.*—A metallic capsule, constructed for application to the neck of a bottle, as described, and on which a trade mark or title is stamped or otherwise permanently imprinted, for the purpose specified.

**71,125.**—WILLIAM A. BOYDEN, Altoona, Pa.—*Axle Box.*—November 19, 1867.—The packing plates occupy recesses in the box, and are kept in contact with the axle by spiral springs. They serve, in combination with the washers, to prevent the escape of the lubricant from the journal, or the entrance of dust to the same.

*Claim.*—The two semicircular packing plates C, constructed with rebated ends and furnished with springs *g*, in combination with the annular washer D, the journal *a*, and the bearing *b* of the axle box, substantially as and for the purpose herein set forth.

**71,126.**—JAMES BRAGDON, Boston, Mass.—*Carpenters' Work Bench.*—November 19, 1867.—The legs are hinged to the top, and have pins sliding in longitudinal slots in the braces; the pins enter cavities at the ends of the slots to engage the legs in position.

*Claim.*—The combination of legs *c* and slotted notched braces *f*, when constructed, arranged, and operating substantially as specified.

**71,127.**—JOHN E. BROWN, Fitchburg, Mass., assignor to himself and JOHN Q. WRIGHT, same place.—*Spindle Bolster.*—November 19, 1867.—The cupped part of the bobbin holder turns on a central, upward projection of the bolster cup, and has an inner inclined groove, which by its rotation carries up oil for lubrication.

*Claim.*—First, so constructing a bolster spindle that the oil for lubricating the latter is automatically supplied at a point above the level of the oil in the bolster cup, substantially as described.

Second, constructing the bobbin holder D with a chamber in its lower end for receiving the sleeve which is formed upon the oil cup E, said holder being secured to the spindle A, so as to rotate with it, substantially as described.

Third, the spiral groove *c*, formed in the chambered bobbin holder D, in combination with the sleeve *b* formed on the oil cup E, substantially as described.

Fourth, the outlets *d d*, through a chambered bobbin holder D, or the equivalent thereof, in combination with a device which allows oil to rise from the cup, E, substantially as and for the purpose described.

**71,128.**—CLARK T. BUSH, Rensselaerville, N. Y.—*Hop Vine Supporter.*—November 19, 1867.—The stakes have metallic caps with spirally-inclined sockets to hold extension rods.

*Claim.*—First, the cap *s*, provided with one or more sockets, constructed substantially as and for the purpose set forth.

Second, the arrangement and combination of the short poles *p p p*, caps *s s s*, and branches *a a a*, substantially as described.

**71,129.**—WILLIAM M. BUSH and T. B. RICHARDS, Cincinnati, Ohio.—*Coal Stove.*—November 19, 1867.—The caloric current is deflected inward as it rises, and at the apex of the deflecting plate it mingles with air from side holes in the stove, which air passes in beneath a diaphragm.

*Claim.*—First, the combination of the annular horizontal plate H and annular converging plate B, forming a close flue for the admission of air, with the chimney C, substantially as shown.

Second, the concentrating flange or ring E, in connection with the chimney C and plate B, substantially as described.

**71,130.**—JOSEPH BUSSEY, Troy, Ohio.—*Wooden Building.*—November 19, 1867.—The planks are laid one upon another and secured. Each alternate plank

extends out further than the one next beneath. The salient edges are beveled.

*Claim.*—The construction of the outer, or both the inner and outer surfaces of the outer walls of wooden buildings and the walls themselves, of planks shaped and arranged substantially as herein described and shown.

**71,131.**—CALEB CADWELL, Waukegan, Ill.—*Sewing Machine.*—November 19, 1867.—The treadle by a connecting rod, crank, grooved pulleys, and cord rotates a shaft at the top of the machine, which actuates the needle slide, thread tightener, and shuttle. The feed foot is above the cloth plate, and is reciprocated by levers connected by the needle slide. The whole operation cannot be briefly explained.

*Claim.*—First, the combination of the shaft J, crank W, and crooked connecting rod R, the cam or projection *c*, arms *a<sup>6</sup> a<sup>7</sup>*, and rod *a<sup>8</sup>*, and the link K, rod M, and annular lever, said parts being arranged substantially as described, and employed to operate the needle slide, thread tightener, and shuttle, as explained.

Second, the combination of the needle bar T, collar *a*, connecting rod U, and arm V for operating the feeding foot H<sup>1</sup>, substantially as described.

Third, the feeding attachment, composed of the bent forked lever V, the perpendicular bar H<sup>2</sup> operated by the short lever *s''* and the spring *s'''*, the pivoted bar *o'''* bearing the feeding foot H<sup>1</sup>, the gauge screw Z', and the spring *x'*, all arranged and combined in their operation substantially as and for the purpose described.

Fourth, the ring G', supported in the outer ring D', in which its position is regulated by the clamping key *g''*, the thumb piece *g'''*, and the spring *e''*, having the arm H<sup>2</sup> to support the upper ring G'', and the double arm H<sup>3</sup> H<sup>4</sup> to guide the feed foot H<sup>1</sup>, and bearing the feeding attachment, all constructed and arranged substantially as and for the purpose specified.

Fifth, a thread-tightener device, consisting of the parts *a<sup>6</sup> a<sup>7</sup> a<sup>8</sup> e c<sup>3</sup>* and Y, arranged and operating substantially as described.

Sixth, a shuttle, constructed as herein described, and having an internal tension device consisting of the parts *a\* c\* d\**.

Seventh, the bracket K, with its bearings *t u*, in combination with pivoted lever L', spring *l<sup>2</sup>*, adjusting nut *v*, and spool, constructed and arranged as herein described.

Eighth, the spring *x*, applied to the spools M<sup>1</sup> M<sup>2</sup>, in the manner and for the purpose specified.

Ninth, the bobbin, or spool winder *n'*, with the shaft *z*, pulley *a'*, adjustable bearings *y y'* hinged at *b'*, and spring *c'*, when constructed and operating as herein described.

**71,132.**—GEORGE S. CALDWELL, Syracuse, N. Y.—*Harness Rosette.*—November 19, 1867.—A hollow glass rosette is lined inside with gold leaf. A button extending through the apex serves for attachment of a ribbon pendant, and for a cord by which it is attached to a patent leather disk and to the bridle.

*Claim.*—A glass rosette A, provided with an ornamental lining or backing *c c*, and secured to the plate B from the button D, substantially in the manner and for the purpose set forth.

**71,133.**—HIRAM CARMICHAEL, Rochester, N. Y.—*Transplanter for Garden Use.*—November 19, 1867.—The instrument resembles two garden trowels hinged together, with their concave faces inward.

*Claim.*—As an improvement in transplanters, making the two blades B detachable by means of the screw joint, substantially in the manner shown and described, whereby either blade may be used as a garden trowel.

**71,134.**—ISAAC H. CHAPPELL, Decatur, Ill.—*Combined Planter and Cultivator.*—November 19, 1867.—The seeding devices may be raised by a lever, or the plows removed, when working the other part exclusively. The plow beams are connected to the frame by rods at their fore ends, which pass through steady rods beneath the longitudinal bars of the frame. The plows are guided by handles.

*Claim.*—First, the wide tires R R, when attached substantially as described, for the purpose specified.



Second, the links and hooks B B, with the connecting rods C C and steadying bar D, arranged substantially as described, for the purpose designed.

Third, the crotched stakes E and levers F, arranged substantially as set forth, for the purpose specified.

Fourth, the slotted bar G and lever H, for the purpose designed.

Fifth, the combination of the cultivator and planter, when built substantially as hereinbefore set forth and for the purposes specified.

**71,135.**—EDWARD A. CHAVANTRE, Newark, N. J., assignor to ALFRED CHAVANTRE, New York, N. Y.—*Blind Fastening*.—November 19, 1867.—The shutter has a spring tending to close it, and is held partially or wholly open by a spring bolt, which passes through the casing and engages one of a series of slots on the hinge hub.

*Claim.*—The bolt *n*, taking the notches of the hub of the hinge, in combination with the latch bar *r* jointed to the shank *m* of said bolt *n*, as and for the purposes set forth.

**71,136.**—HENRY M. CLEMENCE, Worcester, Mass.—*Garment Supporter*.—November 8, 1867.—The lower part of the bracket has a socket giving support to the extensible curved bars over which the garment is hung.

*Claim.*—The movable metal arms B C, in connection with the hanger A and thumb screw D, by means of which the supporter is adjustable to garments of any size.

**71,137.**—ABRAHAM COATES, Watertown, N. Y.—*Horse Hay Fork*.—November 19, 1867.—Explained by the claims and illustration.

*Claim.*—First, in hay forks, such as described, the combination of a center bar, wedge-shaped or provided with inclined sides, as specified, with claws or barbs pivoted to the sheath of the fork, and provided with correspondingly inclined or beveled ends, under such an arrangement that when the said claws are projected from the sheath the inclined sides of the center bar will be held between the said ends of the claws in the manner and for the purposes hereinbefore stated.

Second, the combination with the slotted center bar, and wedges formed therein, of the claws or barbs pivoted to the sheath of the fork, and constructed and arranged for operation as herein described.

Third, the combination with the center bar and claws and hinged connecting rod of the lever, to the shorter arm of which said rod is pivoted, and the detent or locking device, under the arrangement and for operation as herein shown and set forth.

Fourth, the combination with the lever for operating the center bar and claws of the detent or locking device and its spring, under the arrangement specified, so that both the said lever and the detent by which it is held in position may be actuated simultaneously and at one operation, as set forth.

**71,138.**—JOHN M. CRAWFORD and HORACE L. HERVEY, Philadelphia, Pa.—*Toy Hoop*.—November 19, 1867.—The wheel has a series of bells, and is journaled in a frame supported by a handle.

*Claim.*—A toy hoop, in which hoop A, handle D, wire E, animal G, and bells I are combined, substantially as and for the purposes set forth.

**71,139.**—NORMAN B. CRAWFORD, Bennington, Vt.—*Building Scaffold*.—November 19, 1867.—The posts may be lengthened by the addition of sections, and have side pieces whose cross-bars rest against the building. These side pieces have ropes attached near their ends which pass beneath sheaves under the platform, are carried around a sheave at the post-head, and down to the windlass.

*Claim.*—The scaffold poles *e* fitted to be extended in length as set forth, in combination with the winch barrels *f*, frames *m* and platform *n*, as and for the purposes specified.

Also, the platform *n* formed of sections hooked together, in the manner set forth.

**71,140.**—NORMAN B. CRAWFORD, Bennington, Vt.—*Scaffold for Roofs*.—November 19, 1867.—The scaffold has hook-blocks for attachment to the comb, and cords which pass from the scaffold top through the block, to windlasses secured to the scaffold. A

jointed ladder depends from the scaffold and lies on the roof.

*Claim.*—The platform *b*, sustained on the skids *c e*, in combination with the winch barrels *d*, ropes *f*, pulleys *g*, and clews *i*, as and for the purposes set forth.

Also, in combination therewith, the ladder *h* applied as and for the purposes specified.

**71,141.**—LEWIS CUTTING, San Francisco, Cal.—*Furnace for Soldering*.—November 19, 1867.—The top of the furnace has a number of holes containing pots for reception of the ends of eams for soldering. The furnace is covered by a non-conducting substance and lined with fire brick. The slotted ends of the pots extend considerably into the furnace and are so far filled with non-conducting material as that the heat will effect no part but the rim.

*Claim.*—A soldering furnace having heaters G G, provided with plates H H, for utilizing the heat of the furnace, substantially as described and in combination with the heaters provided with plates H H.

Also, filling the center of the heater with gypsum, fire brick, or some slow conductor of heat.

Also, in combination with the heaters G G, the top cover of the furnace formed of gypsum, fire brick, or other slow conductor of heat, substantially as described and for the purposes set forth.

**71,142.**—J. B. DA CAMARA, Jr., Newark, N. J.—*Tooth Powder Bottle*.—November 19, 1867.—The tubular mouth has a cylindrical stopper.

*Claim.*—Tube C, substantially as and for the purpose specified.

**71,143.**—GEORGE DARE and DIANA DARE, Auburn, N. Y.—*Paper Bag*.—November 19, 1867.—The bag is folded into a prismatic form by leaving a rectangular unfolded space at the bottom.

*Claim.*—The manner of folding a piece of paper upon each side of its center for the purpose of forming a bottom the superficial measurement of which shall be the same as the mouth of the bag, substantially for the purpose set forth.

**71,144.**—T. J. DEAN, St. Louis, Mo.—*Tube Well*.—November 19, 1867.—Explained by the claim.

*Claim.*—A tube well, its lower section consisting of two concentric perforated tubes, one wire gauze tube surrounding the interior perforated tube and another lining the exterior perforated tube, a body of filtering material being placed between the two tubes of gauze, all substantially as shown and described.

**71,145.**—WILLIAM A. DEVON, Port Richmond, N. Y.—*Self-Lubricating Gib*.—November 19, 1867.—The wearing face of the gib is made of a separate brass plate which may be renewed when worn out. The oil from the open gib-head is conveyed to the surface by a spring roller to which the oil is supplied by a wick.

*Claim.*—First, a gib constructed in two parts, as shown by A B, and fastened as seen at *a a*, or their equivalents, substantially as herein set forth.

Second, the self-oiling device as shown in D and C, with the roller *d* and slot *f*, and slides *c*, the spring *g*, in connection with the wick *b b b*, or their equivalents, substantially as and for the purpose herein set forth.

**71,146.**—BENJAMIN K. DORWART and G. F. ROTE, Jr., Lancaster, Pa.—*Fence*.—November 19, 1867.—The panels are connected to braces on each side of the fence by blocks which pass through the upper rails and are secured by wedges. The corners have no supporting posts, but are secured by rectangular blocks attached similarly to the aforesaid.

*Claim.*—The braces B B pivoted at their upper ends to the blocks which connect the panels, or to the posts, substantially as and for the purpose set forth.

**71,147.**—B. K. DORWART and G. F. ROTE, Jr., Lancaster, Pa.—*Fence*.—November 19, 1867.—The fence is sustained by pieces which are connected to the posts, and, passing through slots in the rails, are secured by keys which pass through the traversing pieces.

*Claim.*—First, the keys E E constructed as described and used with the braces G, pins or wedges *a a*, and panels A B C D, as and for the purpose set forth.



Second, the swivel block H, as constructed and used with the permanent post end panel, as and for the purpose set forth.

**71,148.**—DANIEL DRAWBAUGH, Eberly's Mill, Pa.—*Nail Plate Feeding Device*.—November 19, 1867.—The cutters have adjustable inclination to the holding shaft, and the latter has intermitting rotation to cause the taper of the nail blanks. The machinery is automatically stopped when the plate is exhausted.

*Claim.*—First, the combination of the spring fingers on the vibrating yoke arm E and the spiral flanges upon the tubular bearing c, through which the nail plate feeding rod passes, for the purpose and in the manner substantially as described.

Second, the combination of the tubular bearing c, nail feeder F, and universal joint C<sup>b</sup>, arranged substantially as and for the purpose described.

Third, the combination of the loaded lever k, arranged upon the outer end of the nail feeding rod F, with the cord, weight, and pulley for feeding the nail rod with the nail plate up to the cutters, substantially as and for the purposes described.

Fourth, the hooked plate S' and spring S applied to the bracket A', substantially as described.

Fifth, providing for automatically stopping the rotary motion of the nail rod, and at the same time releasing this rod from the hooked plate S', by means substantially as described.

Sixth, the combination of brake rod I on lever H with a friction wheel on the shaft i of the pulley J, substantially as described.

Seventh, the adjustable post G b, in combination with the laterally adjustable bracket A', substantially as described.

**71,149.**—JULIUS ELSON, Boston, Mass.—*Breech-loading Fire-arm*.—November 19, 1867.—The barrel is hinged to the solid breech block, and is oscillated by a hinged screw rod and nut. The barrel has a segmental projection entering into a suitable cavity in the breech block.

*Claim.*—First, the lever C, provided with the grooved nut d, in combination with the projection e and the hinged screw rod b, as and for the purpose set forth.

Second, the combination of the solid breech block B, when constructed as described, the hinged barrel A, the projection E, and the hinged screw rod b, as and for the purpose specified.

**71,150.**—CHARLES W. EMERSON, Hartford, Conn.—*Holder for Lamp and Gas Shades*.—November 19, 1867.—The wire attached to the shade top rests on the spring ends of the supporting wires.

*Claim.*—A holder for lamp and gas shades formed with the ring a, wires b b, and spring ends e e, over which the ring f of the shade g is passed and held, as set forth.

**71,151.**—SIDNEY EMMONES and ELNATHAN S. SIMPSON, Geneva, N. Y.—*Carriage Top*.—November 19, 1867.—Explained by the claims and illustration.

*Claim.*—One or more auxiliary bows hinged to the main bows, and arranged to operate substantially as described for the purpose set forth.

Also, in combination with the auxiliary bows we claim the T-plates to which they are hinged.

**71,152.**—JOHN W. ERNEST, Heidelberg, Pa.—*Adjustable Cultivator*.—November 19, 1867.—The four outside bars are hinged together, and the frame adjusted in width by a diagonal draft bar, which has movement between the front bars. The front bars have harrow teeth and the rear bars have cultivator teeth.

*Claim.*—The diamond-shaped cultivator joined and adjusted as herein described, when combined with the teeth, shovels, and regulating elevators, for the purposes set forth.

**71,153.**—WILLIAM FIELDS, Wilmington, Del.—*Propeller*.—November 19, 1867.—Explained by the claim and illustration.

*Claim.*—A propeller for vessels, consisting of a wheel F, having from three-fourths to seven-eighths of its circumference bucketed and the balance solid or boxed, set in a casing of sheet iron, covered by a wheel-house, in combination with a weighted driving

wheel D, working upon a crank axle C, connected with propeller shafts E E by means of the links or arms D D, constructed and arranged as above described and shown by the drawings.

**71,154.**—DANIEL E. FISK, Springfield, Mass.—*Pocket-book Clasp*.—November 19, 1867; antedated October 21, 1867.—The tongue is inserted into the eye to hold down the flap.

*Claim.*—A wallet clasp, consisting of the tongue A attached to the outside of the wallet and the eye F attached to the flap of the same, the parts being arranged to operate substantially as shown.

**71,155.**—WILLARD S. FOLLENSBEE, Janesville, Wis.—*Grout Conductor*.—November 19, 1867.—The tube is formed of a series of truncate-conical sections whose smaller ends enter the larger ends of the next section. The sections are connected by links.

*Claim.*—A grout conductor composed of sections connected as described and arranged to operate substantially as set forth.

**71,156.**—ANDRE FOUBERT, New York, N. Y.—*Apparatus for Distilling*.—November 19, 1867.—Two stills are so combined with pipes and stop-cocks that the vapor and water of condensation from one still shall heat the contents of the other, previous to commencing the distilling operation in the latter.

*Claim.*—The arrangement of the pipes and cocks as specified in combination with two stills, for the purposes and as set forth.

**71,157.**—WILLIAM L. GALLAUDET, New York, N. Y.—*Thread Cutter*.—November 19, 1867.—The cutter slides into one end of the shield. The shield is attached to a heavy base, and has an inclined slot at its mid-length, admitting the thread to the cutter.

*Claim.*—First, the cutter, in combination with the shield, constructed in the manner set forth, substantially as and for the purpose specified.

Second, so arranging the cutter with reference to the shield that it may be readily detached therefrom, substantially in the manner described.

**71,158.**—SAMUEL GARDINER, Jr., New York, N. Y.—*Electric Switch*.—November 19, 1867.—The rotary spring switch has a cam by which the circuit-closer is drawn from its bearing, to avoid friction when the switch is rotated. A number of successive impulses may be imparted by a simple rotation of the switch. A lighting key is combined with the switch. An indicator shows the position of the circuit-closer.

*Claim.*—First, the shaft A and arm E, constituting an electric switch, held to its bearing by a spring C, to insure effective metallic connection, substantially as described.

Second, the cam collar H employed to withdraw the switch from its bearing in the act of rotation, as explained.

Third, the conducting plate L employed in combination with the rotary switch A E and cam collar H, to impart a given number of impulses by a simple rotation of the switch, as set forth.

Fourth, the lighting key M, in combination with the gas turning device A E C H L, for the purposes set forth.

Fifth, the combination of the indicating dial J and index K with the rotary switch A E, as and for the purpose set forth.

**71,159.**—EDWIN GARFIELD, Hartford, Conn.—*Steam Engine*.—November 19, 1867.—The exhaust port has two outlets, either of which can be opened, to cause the exhaust into the open air or the smoke-stack or a condenser.

*Claim.*—The valve b, in combination with the double exhaust passage a a' and the steam exhaust port d, substantially as and for the purpose described.

**71,160.**—JAMES E. GILLESPIE, Boston, Mass.—*Regulator for Motive Power*.—November 19, 1867.—An improvement on the "Scotfield" governor. The fulcrum of the bell-crank, on whose short arm the governor rod acts, is at one end of a balanced lever, whose other end has a stud entering the volute groove of a cam disk. The disk is turned by pawls on a post oscillated by an eccentric, which turns in a slot thereof, but which is ordinarily kept free from



the gear operating the cam by the shield. The shield is connected by a rod to the long arm of the bell-crank, and on movement of the bell-crank lever by the governor rod the shield is moved, so as to allow one of the pawls to act, which moves the fulcrum of the bell-crank as stated.

*Claim.*—First, the mode of operation whereby a compound action is given to the shield T c by means of the levers K and M N, or their equivalents, thereby causing it to be replaced in its normal position by the action of the pawls S S without in any degree preventing it from being moved as usual by a governing device.

Second, the cam H and lever K, or their equivalents, in combination with a power regulator, substantially as specified and for the purpose set forth.

**71,161.**—CHARLES P. GORELY, Boston, Mass.—*Portable Candlestick.*—November 19, 1867.—The spring socket is made of a single strip of metal, which is bent around the upright, then carried forward to form socket and rebent, and carried backward to form handles, by which the socket is sprung open.

*Claim.*—A support for a candle, so constructed and applied as to elasp candles of varying diameters and capable of being lowered with the consumption of the candle, as well as to enclose a very small portion, and allow it to be nearly, if not entirely, consumed.

Also, the peculiar construction of the duplex spring clasp, composed of the jaws a a and b b and handles c c, or any mechanical equivalents therefor, substantially as hereinbefore explained.

Also, the portable candlestick, as composed of the disk f, socket e, post d, spring clasp before described, and folding handle g, the whole being combined and operating together substantially as hereinbefore described.

**71,162.**—JOHN HALL, Watertown, Mass., assignor to himself and CHARLES S. LOCKE, same place.—*Toy Pistol.*—November 19, 1867.—The upper of the two barrels contains the balls, which fall down one at a time into the barrel beneath when the piston is retracted. The piston is retracted by the sliding catch lever, which is drawn back by the trigger, its rear end being raised by the incline and releasing the piston from the catch at the fore end.

*Claim.*—The repeating toy pistol, made substantially as specified, viz: with the magazine and barrel, the opening from one into the other, the spring and piston, and mechanism for retracting the piston and discharging it, the whole being arranged in manner and so as to operate substantially as described.

Also, the combination and arrangement of the catch lever f, the slider h, the trigger i, the spring k, and the cam or inclined plane m, the whole being as specified and for effecting the retraction of the piston, contraction of the spring, and the discharge of the piston, in manner as described.

Also, the combination of the stop pin and the slot or groove o, or their mechanical equivalent or equivalents, with the piston, its spring, the magazine, the barrel, and mechanism for effecting the retraction and discharge of the piston, in manner as specified.

**71,163.**—EZRA M. HAMILTON, Minneapolis, Minn.—*Machine for Pressing Peat, Clay, &c.*—November 19, 1867.—The peat is broken by the pins on a rotating shaft in combination with pins projecting from the hopper sides. From the hopper the peat passes into the press box, from which it is forced into the molds by the stampers. The molds are operated by slotted levers, which carry springs having blocks on their ends to eject the peat from the molds when withdrawn from the press box.

*Claim.*—The combination and arrangement of the pulverizing roller D, stampers N, operated by the tappets Q and shaft H', with the shaft G', and crank S', working the lever S, with spring V and block V', to push the cakes of peat out of the molds M', all for joint operation as herein described.

**71,164.**—DAVID S. HARNER, Xenia, Ohio, assignor to WHITELEY, FASSLER, and KELLY, Springfield, Ohio.—*Harvester.*—November 19, 1867.—The rake bar is pivoted to a plate which is oscillated by a lever connected to a crank on a shaft receiving mo-

tion from the main driving shaft. The center of oscillation of the plate is in a line with the pitman-crank shaft, so that any relative change in position between the main frame and the platform will not affect the operation of the rake. The latch is formed of a single piece of spring steel, one portion being coiled to give elasticity. One end is fastened to the rake-head, and the other end projects in a line parallel with the upper surface of the same, and passes through the notches, to ride upon the arch in the forward sweep of the rake.

*Claim.*—First, the combination of the lever k and rake head I, when said lever and rake head are both pivoted to the plate i, or its equivalent, and are capable of independent vertical movements, substantially as and for the purpose set forth.

Second, the combination of the pitman m, pivoted lever k, and curved guides l l, as and for the purpose set forth.

Third, the braces j j, arranged on either side of the rake head I, as shown, so as to prevent any lateral movement of said rake head upon its bearing on the joint bolt g.

Fourth, the rake head I, moving upon a pin e, which is about in line with the axis of the crank shaft. Said rake head is between said pin and the main frame, as set forth.

Fifth, the adjusting bar W, connected to the main frame and coupling arm, or its equivalent, for the purpose of adjusting the angle of the cutters and the position of cutter bar and platform.

Sixth, the following instrumentalities, combined and arranged substantially as set forth, in a harvesting machine having a floating platform and two driving wheels, to wit: the sweep rake I, pivoted lever k, pitman m, crank n, and geared wheel p, meshing with a driving pinion on the main pinion shaft between the two driving wheels.

Seventh, the spring latch b, constructed so that the latch and spring are formed of one piece, in combination with the rake head I and arch a, substantially as and for the purpose set forth.

Eighth, the combination of the pivoted arm k, plate i, and guides l l, connecting rod m and crank n, or their equivalents, so that the mechanism which drives the rake shall be connected thereto, outside of the center upon which said rake moves, substantially as shown.

Ninth, the arrangement of the rake head I, in relation to its center pin e, to wit: on that side of said center pin which is toward the main frame and cutting apparatus, so as to reduce the necessary length of the platform, as set forth.

Tenth, the loose or rolling joint between the coupling arm S and bracket U, shown in Figs. 1 and 4, in connection with the curved drag bar R, as and for the purpose set forth.

**71,165.**—JOHN H. HARPER, Pittsburg, Pa.—*Cider Press.*—November 19, 1867.—The conical disks are inclined, so that their lower sides are parallel and serve to mash the fruit. From the upper disks the fruit passes to a lower pair of disks having rubber faces coming into close contact and pressing out the cider.

*Claim.*—The rubber-faced disks G G upon the lower platform of the frame, as set forth, and used in combination with the disks D D, for the purposes set forth.

**71,166.**—H. A. HARVEY, New York, N. Y.—*Screw Nail.*—November 19, 1867.—The nail has a screw head, and has a series of nieks cut spirally in its sides so that it can be extracted by a screw driver.

*Claim.*—A screw nail, composed of a proper head and a body surrounded by nieks, which are diagonal to the axis of the nail, and at their ends extend into other nieks, so as to constitute a continuous irregular spiral nicking around the body of the nail as a whole, being substantially the same as hereinbefore described.

**71,167.**—ISAAC J. HATTABOUGH, Santa Clara county, Cal.—*Horse Hay Fork.*—November 19, 1867.—Each series of claw tines is connected by its cross-bars to a lever. The ends of the levers are raised by the tail of the hoisting device, which action forces in the tines to engage the load. The load is disengaged by depressing the lever ends. The levers have hooks



engaging the heads to keep the tines extended while descending upon the load.

*Claim.*—The slotted ring hinge  $B' d$ , or its equivalent, and the claw-shaped teeth  $c' c' c' c' c' c' c'$ , in combination with the rake heads  $C C$  and levers  $E E$ , all arranged and operating substantially as above set forth.

**71,168.**—E. K. HAYNES, Hanover, N. H.—*Lamp Shade.*—November 19, 1867.—The sections of the shade slide on their nearly vertical supporting wires.

*Claim.*—A segmental lamp shade supported upon a frame of wires, constructed substantially as described and on which it is made adjustable as to height.

**71,169.**—E. S. HAYWARD, Roxbury, Mass.—*Spring for Beds.*—November 19, 1867.—The coils are of larger diameter toward the midheight to allow a greater vertical contraction. The spring is supported on a seat having a screw entering the rail, and has a cap piece to support the slat or bed bottom.

*Claim.*—A spiral spring with the largest circumference at some point between the ends, substantially as and for the purpose described.

**71,170.**—H. HAYWARD, Brooklyn, N. Y., and JOHN M. PENDLETON, New Brighton, N. Y.—*Cleaning Wool.*—November 19, 1867.—The wool is immersed in sulphuric acid reduced by water to  $10^{\circ}$  to  $20^{\circ}$  B. for  $1\frac{1}{2}$  to 5 hours, and then washed in water. The wool, after passing through squeezing rollers, is immersed in a weak solution of carbonate of soda, then after again passing through the rollers to a solution of caustic soda of a gravity from  $20^{\circ}$  to  $40^{\circ}$  B. and a temperature of  $130^{\circ}$  F. The wool is then washed, dried with heated air, and passed through the burr-crushing rollers. The grease taken from the wool may be received by treatment of the solution with caustic soda and common salt.

*Claim.*—First, in connection with the within-described method of destroying burrs and other vegetable fiber found mixed with wool by means of acid, the employment of carbonate of soda or carbonate of potash, as a neutralizer for the acid in the yolk or grease on the surface of the wool, so as to form a salt in the substance of the woody fiber, and to agitate the mass by the gas liberated, substantially as herein specified.

Second, in connection with the destruction of the woody fiber in wool by chemical agents as specified, the recovery of the partially saponified grease by treating it with caustic soda, and afterwards with salt or sulphate of soda, or both, and allowing it to rest, all substantially in the manner and for the purpose herein set forth.

**71,171.**—THOMAS HENNEY, Dubuque, Iowa.—*Hot Air Stove.*—November 19, 1867.—From the top of the air chamber the caloric current passes into external diving flues, through which it is conducted to a chamber surrounding the stove above the base, and from thence passes to the exit flue. The stove has vertical air-heating pipes.

*Claim.*—First, the chamber  $C$ , arranged between the base  $A$  and the top section  $D$ , and provided with communications  $E, F$  and  $F'$ , in combination with the division  $b$  and a damper  $c$ , substantially as and for the purposes described.

Second, the combination of the intermediate chamber  $C$ , top chamber  $D$ , single wall fire chamber  $B$ , short pipes  $E F$ , and long pipes  $a a^1$ , substantially in the manner and for the purpose described.

**71,172.**—J. WARREN HITCHCOCK and JAMES K. DEYO, Morrisville, N. Y.—*Corn Planter.*—November 19, 1867.—The seed hoppers and plows are carried on a frame which is hinged to the wheel frame at its rear end, and is adjustable vertically by a lever and catch standard. The seed slides are moved backward by tappet wheels rotating with the ground wheels, and moved forward by springs.

*Claim.*—A corn planter having drill plows  $B$ , coverers  $C$ , sliding bars  $F F$  and  $G G$ , springs  $M$ , pins  $Y Y$ , and hoisting apparatus, described, constructed and arranged substantially as herein specified.

**71,173.**—LEONARD HOSZEK, New York, N. Y.—*Ventilating Apparatus.*—November 19, 1867.—The

air for ventilation is forced through water at a proper temperature, or through medicated liquid.

*Claim.*—First, the combination, with the vessel and revolving wheel, of the air chamber and entrance and exit pipes, all these parts being constructed and arranged as shown in Fig. 1, for joint operation.

Second, the revolving screw, arranged and operating as shown in Fig. II, for the purpose described.

Third, the combination, substantially as shown in Fig. III, of the oscillating cups and discharge pipes, for the purpose set forth.

Fourth, the combination, substantially as shown in Fig. IV, of the pipes  $f g$ , with the vessels  $a c$ , for the purpose described.

**71,174.**—JOSEPH E. HOVER, Philadelphia, Pa.—*Paste.*—November 19, 1867.—To water, 1 gall., are added flour, 10 oz.; and acetic acid, 1 pint.

*Claim.*—A paste, consisting of the within named ingredients, combined substantially as specified.

**71,175.**—J. HOWARD and E. T. BONSFIELD, Bedford, England.—*Harvester.*—November 19, 1867; patented in England, November 20, 1866.—The reel shaft has rotation by chain and chain wheels, one of which latter is on the driving shaft, and the other turns on an eccentric upon a fixed sleeve, in which the reel shaft turns. This upper chain wheel has a radial slot receiving the pin of a crank on the reel shaft, and as the chain wheel rotates it causes variable rotation to the reel shaft, as the actuating crank pin varies in its distance from the center of the wheel. The radial arm carrying the rake has a miter wheel meshing with a fixed miter wheel on the frame, by which it has rotation during its revolution.

*Claim.*—First, the arrangement of the short shafts  $a e$ , the former radial to the drive wheel, and the latter parallel to and in the same vertical plane with the former, both supported in one and the same frame, which moves about the main axle as a center, and both shafts carrying gears at their forward ends, by which the motion to drive the cutter is transmitted, as set forth.

Second, the arrangement of the rake and reel arms in the radial sockets of the same reel boss, so that they shall all revolve with the boss around a common center, and the rake have, in addition to that motion, another motion around its long shank, which is supported by and turns in as well as with said boss, by gears, one fixed and the other movable, as set forth.

Third, giving a differential speed to the reels of reaping machines, in the manner and for the purpose above described.

**71,176.**—M. C. HULL, New York, N. Y.—*Heating Stove.*—November 19, 1867.—The central fuel chute is surrounded by a deflecting dome from which the caloric current passes to an outer annular chamber and from thence descends to the exit flue. The air passes up pipes to the space between the outer side of the deflecting dome and the inner side of the annular case, from which space it has free upward exit.

*Claim.*—First, the flue  $g$  around, or partially around, the outside of the fire chamber, substantially as set forth.

Second, the inclined plate  $f$  forming the top of the flue  $g$  for preventing the lodging of ashes or fuel, as set forth.

Third, the pipes  $i$ , applied in substantially the manner specified, to cause the products of combustion to ascend toward the top of the furnace or stove and then descend toward the base, for the purpose specified.

Fourth, the flue  $n$  and pipes  $i$ , in combination with the flue  $g$ , as and for the purposes set forth.

Fifth, the inclined plate  $f$  through which the smoke flues pass, substantially as and for the purposes specified.

**71,177.**—WILLIAM H. HUTCHINS, Lockport, Ill.—*Potato Digger.*—November 19, 1867.—The rear edge of the shovel plow has a series of ogee-formed bars acting as a screen.

*Claim.*—The combination of the concave share or blade  $d$  and the prongs  $b b$  rigidly fixed thereto, and of the peculiar and particular shape shown, all constructed and arranged as and for the purposes set forth.



**71,178.**—M. G. IMBACH, Hartford, Conn.—*Calipers or Dividers*.—November 19, 1867.—One leg consists of two parts pivoted near the joint, and having oppositely inclined slots traversed by a stud, so that a longitudinal movement of the stud will slightly change the span of the calipers.

*Claim.*—The fixed pivot F and movable shank O, extending through the parts D E, forming one leg of the calipers, when operating as described for the purpose specified.

**71,179.**—GEORGE W. JACKSON, Wyalusing, Pa.—*Platform Scale*.—November 19, 1867.—The corners of the platform rest on ribs on one side of the plates, which are suspended from the frame by loops on the other side. These plates at the same end are connected by a bar attached to levers connected to the scale beam.

*Claim.*—First, the use of the stirrups *g* and the stirrups *h*, when performing the double purpose of affording bearings for the floor beams *k k* and the hooks or links *c*, and of clasping the shafts A, in connection with the plates *i*, all arranged substantially as described and for the purposes set forth.

Second, the slotted arms *m* on the ends of the floor timbers F, when used in platform weighing scales, substantially as shown and described.

**71,180.**—E. C. C. KELLOGG, Hartford, Conn., assignor to himself and THEODORE HOYT.—*Burglar Alarm*.—November 19, 1867.—The tripping cord is attached near the joint of the toggle brace, and operates to flex the latter and release the detent arm.

*Claim.*—The toggle brace in combination with the arm *d* connected with the striking mechanism of a burglar alarm, substantially as and for the purpose herein set forth.

**71,181.**—A. A. KENT, Lyons, Iowa.—*Compound Tool for Cutting, Punching, and Upsetting*.—November 19, 1867.—The lever to which the moving blade of the shear is attached is connected to a lever having a segmental rack which is engaged by a spur wheel. This latter has a ratchet disk upon its side, engaged by a pawl, and having a side ratchet engaged by the operative lever, which is pivoted to its arbor. The shear arm has a projection entering a cavity of the sliding punch stock, by which the latter is actuated. The clamping heads of the upsetting device are connected respectively to the punch stock and main standard; the bar to be operated on is clamped between a rack and serrated cam on each head.

*Claim.*—First, the lever H, as constructed, in combination with the arm B', adjustable connecting bar G, and lever D, substantially as and for the purpose set forth.

Second, the combination of lever I, plate J, and wheel W, with the lever H, all constructed and arranged as and for the purposes specified.

Third, the combination of the standard B with bar L, lever D, connecting rod G, lever H, wheel W, plate J, and lever I, all constructed and arranged substantially as herein specified.

**71,182.**—M. W. KILGORE, Baltimore, Md.—*Churn*.—November 19, 1867.—The lower mouth of the air pipe is beveled off towards the inclined blades at one end of the dasher, so that the suction caused by the blades will draw the air through the pipe.

*Claim.*—First, a churn, each and every feature of which being made of galvanized iron, substantially as described and for the purpose specified.

Second, constructing the blades or paddles of the dasher with their edges serrated, substantially as described and for the purpose set forth.

Third, so arranging the pipe B, entirely independent of the dasher, that a continuous current of air is fed to the cream, and introduced at a point which is near the bottom of the churn, substantially as described and for the purpose specified.

Fourth, the combination of the pipes B and *d' d'*, when the same are arranged substantially as described.

**71,183.**—T. J. KINDLEBERGER, Eaton, Ohio.—*Lever Jack*.—November 19, 1867.—The operative lever has hinged connection to the axial pin of the wheel, and acts upon the wheel cog by cog. The

wheel engages the vertical rack bar, and the latter is sustained by a pawl between the strokes of the lever.

*Claim.*—A lever jack consisting of the frame A, having the rack bar B placed therein and operated by means of the wheel C and the lever D, when said parts are arranged to operate as herein shown and described.

**71,184.**—HENRY W. KNIGHT, Columbus, Ohio.—*Attaching Picks to Handles*.—November 19, 1867.—The straps overlap the socket at both ends, and are secured together by a bolt pressing through the handle.

*Claim.*—The combination of the blade, the handle, the overlapping straps, fastening bolt, and the wedge, when all these parts are constructed and arranged as described for the purposes set forth.

**71,185.**—B. J. LAMOTHE, New York, N. Y.—*Construction of Buildings*.—November 19, 1867; antedated November 13, 1867.—The metallic columns pass through the blocks in an inner and outer course, and the horizontal ties pass through the blocks between the columns. The columns also pass through the joist beams, which may be metallic and tubular, like the columns. The lower edges of the plates forming the roof have a double bend, forming a recess to receive the upper edge of the plate next below.

*Claim.*—First, the blocks *c* applied at the intersections of the rods or tubes that form the frame of the structure, and having holes passing into or through them in different directions for the reception of the rods or tubes, substantially as set forth.

Second, the double fold at one edge of the plate *k*, as at *m*, Fig. 4, and the bent or turned edge *l*, for receiving the edge of the next plate and for connecting the plate with the rods or tubes of the structure, respectively, substantially as set forth.

Third, the sliding clamp *j* of sheet metal, with its edges folded toward each other, in combination with the plates *i* folded over at their edges and receiving the clamp *j*, substantially as set forth.

Fourth, the method, substantially as shown in Fig. 5, of fitting the sides of window sashes and window casings.

**71,186.**—WILLIAM C. LANE, Greenpoint, N. Y.—*Device for Suspending and Detaching Articles*.—November 19, 1867.—The staff has various sustaining devices for the release of elevated articles from the place of suspension or raising them for attachment to the latter.

*Claim.*—First, a hooking rod, or device having a hook-receiving socket C for the elevation of the hook to its place of suspension and clearance therefrom when suspended, substantially as specified.

Second, in combination with the hook-receiving socket C, the hook-detaching horn E, both carried by a rod or handle, essentially as described.

Third, the combination with a hook-suspending device of a hook-keeper F, substantially as specified.

Fourth, an instrument or device, consisting of a hook-receiving or carrying socket, hook-detaching horn, and hook keeper, all formed of one and the same piece, and attached to a common stock or handle, essentially as herein set forth.

**71,187.**—PHILIP LINDEMAYER, Hoboken, N. J., and LEWIS LINDEMAYER, New York, N. Y.—*Window Shade*.—November 19, 1867.—Sheets of muslin are sized with glue. A plate of zinc (No. 10) is cleaned with water and pumice stone and polished with water and charcoal, and then washed and dried. The design is then put on the plate in lithographic ink. The plate is then prepared by laying on with a soft brush a solution consisting of nut galls, 5 oz., and rain water 3 lbs., boiled down to one-third, to which, when strained, is added nitric acid, 3 oz. The plate is then watered with gum-arabic water. The gold size is rolled on the plate by a soft roller, while the plate is kept moist by a sponge. The plate is then passed through the press in contact with the prepared muslin. The size is made of amber, or senna and lithographic varnish. The gold leaf is then laid on the design, after which it is run through the press, which causes the metal to adhere. The metallized surface is then coated with Damar varnish, which is allowed to dry. The design is then printed on, in lithographic



color, which may be finished by hand. Over this gilt varnish is applied.

*Claim.*—First, the within described method of producing window shades, by preparing the fabric as recited, printed with thick size, powerfully compressing the gold leaf or other equivalent material thereon; afterward varnishing, printing with color over the metal, and varnishing again, all substantially in the manner and for the purpose herein specified.

Second, zincographic window shades, produced substantially as herein specified.

**71,188.**—NATHAN M. LINTON, Wilmington, Ohio.—*Animal Trap.*—November 19, 1867.—The rat enters beneath the lifting grate, and in seeking escape through the grated opening at the upper end of the inclined board, passes on to the tipping piece, and is deposited beneath.

*Claim.*—The combination of the hinged door C with the parts B D E F and G, as and for the purpose set forth.

**71,189.**—L. T. LUTHER, Oak Grove, Pa.—*Water-proof Friction Match.*—November 19, 1867.—The matches are dipped in a composition of benzine, spirits of turpentine, and paraffine, equal parts, and then into water-proof varnish.

*Claim.*—The varnishing of the igniting ends of the matches, and the saturation of their lower parts with the saturating mixture composed of the specified ingredients or their equivalents, substantially as described.

**71,190.**—C. S. LYMAN, New Haven, Conn.—*Apparatus for Illustrating Waves.*—November 19, 1867.—An upper series of rotating cranks have turning heads traversed by a flexible horizontal wire. A lower series of cranks of half the length are similarly arranged, and connected to the other cranks by flexible vertical wires, whose lower ends are inserted in the base board. The motions of the wires indicate the movements of the particles of water at various depths when in waves.

*Claim.*—A combination of one or more flexible wires D E, one or more series of cranks e f, and mechanism for revolving such cranks synchronously, the whole being arranged and applied together, and to a board or its equivalent, substantially in manner and so as to operate as and for the purpose as specified.

Also, the arrangement and combination of the series of flexible wires F with one or more flexible wires D E, one or more series of cranks e f, and mechanism for revolving such cranks synchronously, the whole being applied substantially in manner and so as to operate as specified.

Also, the combination and arrangement of the pendulum or wire r with the flexible wire D, and its series of cranks, arranged and applied in manner and to operate together substantially as hereinbefore explained.

Also, the arrangement and combination of horizontal and vertical lines going through the axes of the cranks, substantially as represented in the drawings, with the system of movable wires or mechanism for producing the wave motion, as set forth.

Also, the combination and arrangement of the circle p with the system of movable wires or mechanism for producing the wave motion, as specified.

**71,191.**—O. MACDANIEL, New York, N. Y.—*Scouring and Cleaning Wool and Woolen Fabrics.*—November 19, 1867.—The wool is saturated with benzine, and passed between pressure rollers to break the lumps of dirt; it is then agitated in a tank of benzine; the benzine is allowed to run into a still, and the tank covered. Steam is then forced into the tank, to evaporate the benzine from the wool.

*Claim.*—First, an improved process for scouring wool and woolen fabrics, and removing the oil therefrom, substantially as herein described.

Second, an apparatus, employing steam indirectly, for scouring and drying wool, combined with a still, substantially as and for the purpose herein described.

Third, crushing the tag locks and lumps of dirt, when saturated with naphtha, preparatory to scouring the wool, substantially as and for the purpose described.

**71,192.**—JOHN MALNIGHT, Grass Lake, Mich.—*Measuring and Cutting out Dresses.*—November 19, 1867.—The scale is graduated by diverging lines, and has parallel lateral lines dividing them. The lateral spaces are numbered to correspond with the breast measure, and the divisions indicated by the diverging lines denote the proper divergence of the pattern from a straight line at various points.

*Claim.*—The within-described system of cutting dresses, as set forth.

**71,193.**—WILLIAM H. MARSHALL, Sutton, N. H., assignor to himself and HOSEA B. SPAULDING, Merrimack, N. H.—*Carriage Wheel.*—November 19, 1867.—Each spoke has two round tenons for connecting with the hub. Every other mortise is placed immediately beneath the rim and the others alternately inside and outside, to form braces.

*Claim.*—The double round tenons c c, in combination with the mortises f f, for the purposes as described and set forth.

**71,194.**—O. L. MATHER, Wellsville, N. Y.—*Attaching Thills to Vehicles.*—November 19, 1867; antedated October 18, 1867.—The thills are only detachable by throwing them up into a vertical position. The device is explained by the claim and illustration.

*Claim.*—The portion B, provided with the concave bed a, to the sides c c of which the central pin b is attached, and part D, with the concavo-convex end fitting into the said concave bed a, when all are constructed and arranged as herein set forth, for the purpose specified.

**71,195.**—GEORGE MCCOY, Antioch, Cal.—*Gate Fastening.*—November 19, 1867.—Explained by the claim and illustration.

*Claim.*—A gate fastening, having the bolt a, operated by the lever B and spring c, together with the securing lock g, or its equivalent, constructed and operated substantially as and for the purpose described.

**71,196.**—THOMAS MCILROY, New York, N. Y.—*Invalid and Fracture Bedstead.*—November 19, 1867.—The bed is raised by canvas beneath, which is stretched on side rods attached by cords to rotating head and foot rails having ratchet wheels and pawls. The bed bottom is made in hinged sections, and may be bent in various ways to suit the patient. The sections are raised by pinions operating on segmental racks.

*Claim.*—First, the rods E E, cords or other connections D D', and shafts C C', when employed conjunctively as a means for elevating the patient above the bed, in the manner and for the purpose set forth.

Second, the sectional bed bottom G G<sup>1</sup> G<sup>2</sup> G<sup>3</sup>, in combination with the segments H H', cog wheels I I', shafts I<sup>2</sup> I<sup>3</sup>, pawls v', notched bars J J, and rod J', all arranged and employed in the manner and for the purpose set forth.

Third, the device M m m m, or any substantial equivalent thereof, to enable the employment of three or a plurality of extension weights, as and for the object set forth.

Fourth, the foot rest L, provided with legs and braces L<sup>1</sup> L<sup>2</sup>, and adapted to be used as a table, as explained.

Fifth, the arms K K', arranged so as to be detached from and united to each other by mortise and tenon, and employed substantially as and for the purpose explained.

**71,197.**—ABNER MCOMBER, Schenectady, N. Y.—*Artificial Leg.*—November 19, 1867.—The foot section is fitted to the leg section by a ball and socket joint, in such manner as to leave sufficient backward and forward and a slight side oscillation. The toe piece is connected at the ball by a spring plate beneath and a flexible piece above. The foot is restored to position at the socket joint by a flexible rod at the heel and a rubber spring before.

*Claim.*—First, in an artificial leg, having a ball and socket joint such as described and shown, the central eye bolt D, arranged as shown, in combination with the pin j, bar e, flexible strap m, rod k, and spring l, all substantially in the manner and for the purpose described.

Second, in an artificial leg, having a ball and socket joint such as described and shown, the arrangement



of the bolt D, strap *m*, and rod *k*, in recesses *g h h'*, which allow a lateral as well as a vertical articulation of the ankle, as herein described.

**71,198.**—GIDEON C. MEAD, Guilford, N. Y.—*Hay Raker and Loader*.—November 19, 1867.—The hay is carried up by the endless rake over a slide piece, and the rake heads during this action are depressed by anti-friction rollers running beneath guides. The slide has at its lower end an adjustable metallic plate. The support of the rear roller, around which the endless rake passes when in proximity with the ground, is depressed by a spring, and the roller allowed to rise when passing over rough ground.

*Claim.*—First, the combination with the hinge piece *a* and spring *b* of the roller *c*, substantially as and for the purpose specified.

Second, the combination with the slide S of the supplementary slide or piece V, substantially as and for the purpose set forth.

Third, the combination with the rake heads C and guide I of the spring J, substantially as and for the purpose described.

**71,199.**—ARTHUR D. MEDLICOTT, Windsor Locks, Conn.—*Safety Hatch for Warehouses*.—November 19, 1867.—The jointed platform is wound on rollers at each side, when moved back by the guide bars and the weights connected to the rollers. The guide bars are acted on by the hoisting platform, after the passage of which the jointed platform is drawn from the rollers, and placed across the opening by the heavier weight.

*Claim.*—The employment of the opening and closing rolling slat platform *d*, in combination with the shafts *b*, weights *g*, bars *d*, and platform *h*, substantially as and for the purpose described.

**71,200.**—P. GRAY MEEK, Bellefonte, Pa.—*Printer's Galley*.—November 19, 1867.—The side stick has a series of springs attached to it and bearing against the side of the galley, to render the stick self-adjusting.

*Claim.*—First, a printer's galley, constructed with a slot at one end and a notched plate at the other, in combination with a side stick having a T-shaped head and pawl, when the same is operated by means of springs, substantially as described.

Second, securing the type in position by means of the side stick D, when the same is operated by springs, substantially as and for the purposes specified.

Third, the combination of the T-shaped head *a*, plate F, having holes *e* and pins *f*, substantially as and for the purpose specified.

Fourth, the bottom plate A, having notches *g*, in combination with the blade or pawl *b*, arranged and working in a slot in the end of the side stick D, substantially as described and for the purpose specified.

**71,201.**—CHARLES H. MILLER, Buffalo, N. Y.—*Snap Hook*.—November 19, 1867.—The loop is cast with the tongue, and the hook hinged thereto, so that the tension on the strap keeps the points of the tongue and hook in contact.

*Claim.*—Hinging the snap tongue to the hook, in the manner substantially as herein described.

**71,202.**—GEORGE R. MOORE, Lyons, Iowa.—*Car Coupling*.—November 19, 1867.—The coupling bar is arrow-headed, and its head enters between two spring clamping plates hinged at their forward edges.

*Claim.*—The diverging levers or clasps, when held and operated by the arrangement of springs and catches, as and for the purpose set forth.

**71,203.**—GEORGE R. MOORE, Lyons, Iowa.—*Car Coupling*.—November 19, 1867.—One draw head has two spring levers with intumed catches, which engage the coupling pin of the other head.

*Claim.*—The double hooks, or self-tightening clasps or claws, constructed as described, and pivoted in such a manner as to gripe the pin by the draught of the cars.

**71,204.**—JOSEPH MÜLLER and FRIEDERICH KAISER, Philadelphia, Pa.—*Flutina Melodeon*.—November 19, 1867.—Explained by the claims and illustration.

*Claim.*—First, the musical instrument herein de-

scribed, adapted to be played either as a melodeon or as an accordeon, substantially as described.

Second, supplying fresh air to the continuous current of air in the instrument through the holes *j* in the front of the upper part of the double chamber, B, substantially as described.

Third, the construction of the body of the flutina melodeon with a lid L closing on the upper bellows, and lid K closing the keyboard, forming one side, and the bottom board I' of the bellows I, automatically closing the opposite side, whereby the body of the instrument is closed on all sides and forms a portable case, substantially as described.

Fourth, the treadle P, the detachable cord M, and folding stand N, when combined and adapted for the purpose, substantially as described.

**71,205.**—OCTAVE NICOUR, Paris, France.—*Photographic Apparatus*.—November 19, 1867.—The device has a photographic apparatus resembling an opera glass, and has repositories of prepared plates. The two tubes of the glass have lenses identical in focus and other respects.

*Claim.*—First, the apparatus or instrument, as a whole, for photographing purposes, substantially as specified.

Second, the combination of the lenses C C C' C', of equal focal distance and forming part of one and the same apparatus, and serving, the one set for finding the focus and the other for the production of the picture upon the prepared glass sheet or plate, substantially as specified.

Third, the combination of the lenses C C C' C', adjusting screw D, tubes B B' with their dark and light chambers, the one for holding the ground glass F, or its equivalent, for projection of the image, and the other provided with a slot or opening *c* for receiving the prepared glass sheet or plate H on which the picture is taken, essentially as herein set forth.

Fourth, in combination with the tubes B B' and lenses, as described, the adjusting screw G.

Fifth, the combination with a photographing device, made up of tubes, lenses, and dark and light chambers, essentially as specified, of a box I, constructed to hold the prepared glasses, sheets or plates, and operating to insert the same in succession or at pleasure within the photographing chamber, and to receive the picture therefrom, without, during such transfer, exposure to the light, substantially as herein set forth, or in any other equivalent manner.

**71,206.**—HARRISON OGBORN, Richmond, Ind.—*Animal Trap*.—November 19, 1867.—The oscillatable door is closed by the bar, which is tilted by the weight of the rat, and the passage of the rat beneath the tilting door into the light wire-work enclosure resets the trap.

*Claim.*—First, the movable disk G, operating in combination with the tilting bar I, substantially as and for the purpose specified.

Second, in combination with the above, the pivoted platform, J, arm K, connecting rod L, lever M, and door F, arranged in relation to the apartments A and C, as and for the purposes explained.

Third, the retaining wires P, substantially as and for the purposes described.

**71,207.**—CLEMENT OLHABER, Cincinnati, Ohio, assignor to WOODROW, MEARS & Co., same place.—*Water Boiler for Cooking Stove*.—November 19, 1867.—The reservoir is set on the ordinary pipe opening and secured by vertical screw rods. It has a semi-cylindrical flue in its lower side, which turns up at the rear for connection to the stovepipe.

*Claim.*—First, the horizontally-flued reservoir J, and extension plate B, arranged, combined, and adapted to operate as set forth.

Second, the arrangement in a stove reservoir of the bottom horizontal flue K, communicating at the rear of the reservoir with a smoke-pipe collar formed by the flanges H and I, on the extension plate and reservoir, respectively, as herein explained.

**71,208.**—FREDERICK ORTLEIB, Williamsburg, N. Y., assignor to THE METROPOLITAN ROTARY ENGINE COMPANY, New York.—*Rotary Engine*.—November 19, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination with a rotating



piston, made up of radial slides and occupying an eccentric position relatively to the outer case, of separate inner and outer steam cylinders or chambers, when the one of said cylinders serves to use the steam expansively from the other in such manner as that the radial slides, which form a piston or pistons common to both, are acted upon by high pressure steam at a short leverage, and by the expanded steam at a longer leverage and lateral pressure on the main shaft, reduced or counteracted by the live or high pressure and expanded steam conjointly, substantially as specified.

Second, the arrangement, relatively to the inner and outer steam cylinders or chambers and rotating piston, common to both, of the several inlets and outlets for, without extra mechanism and by the action of the radial slides composing the piston, the admission of high pressure steam to the inner cylinder or cylinders and passage therefrom, after performance of its duty, to the outer cylinder or chamber, to work expansively in the latter on said piston, and in due course discharge therefrom, essentially as herein set forth.

Third, the arrangement, substantially as herein described, of the revolving piston with its radial slides, inner and outer steam cylinders, and exhaust port in the outer cylinder to the condenser, for preventing the high pressure cylinder and greater portion of the low pressure one from being cooled by the condenser, essentially as specified.

Fourth, the steam balance plates I and O, or I' O', the one of them (O or O') being stationary and connected with the outer cylinder, and the other (I or I') rotating with the piston, and both serving to pack the edges of the radial slides and to relieve the piston of friction, essentially as herein set forth.

Fifth, in combination with the steam balance plates O O', the packing rings P P<sup>1</sup> P<sup>2</sup> P<sup>3</sup>, and recesses *m p* communicating with the high and low pressure cylinders of the engine, substantially as described.

**71,209.**—ALONZO PALMER, Hudson, Mich.—*Hame Fastener*.—November 19, 1867.—The hook bars slide longitudinally on each other, and are secured by a spring ratchet bar, pivoted to the jaws of the lower bar and engaging a ratchet on the upper bar.

*Claim.*—The bars A B and C, and spring D, constructed and arranged to operate in the manner and for the purposes set forth.

**71,210.**—ANTONIO PELLETIER, Washington, D. C.—*Composition for Coating Wood, Iron, Paper, &c.*—November 19, 1867.—Explained by the claims.

*Claim.*—First, the compound, consisting of vegetable fiber, silicate of soda, and soapstone, substantially as described and for the purposes set forth.

Second, the compound, consisting of vegetable fiber, soapstone, silicate of soda, or its equivalent, when made into sheets or coated on fibrous, porous, or solid substances, and treated with coal tar and steatite, substantially as described and for the purposes set forth.

Third, as a new article of manufacture, the composition substantially as herein described and for the uses and purposes set forth.

**71,211.**—FRANKLIN B. PERRY, Northampton, Mass.—*Pocket Cutlery*.—November 19, 1867.—The cheeks have a connecting rear bar above the end of the spring.

*Claim.*—The making of a knife in which the cheeks or sides of the handle through which the rivet is placed, which holds the blade, are united together by means of a bar secured to them in the manner and at the same position as above described.

**71,212.**—E. S. PIERCE, Hartford, Conn.—*Balance Wheel*.—November 19, 1867.—The wheel turns freely on the shaft, but may be connected to an arm keyed to the latter by a piece traversing slots in the fixed arm and one of the wheel arms, and secured by set screws.

*Claim.*—An improved balance wheel in which the outer rim or wheel is separate from the hub or axis, upon which it can turn when disconnected, and to which it is attached by the devices herein described, or their mechanical equivalents, for the purpose herein set forth.

**71,213.**—J. E. POLLARD, Franklin, Mass., assignor to the ELLIOTT FELTING MILLS, same place.—*Embossing Cloth*.—November 19, 1867.—The engraved parts of the embossing plate are coated with a composition consisting of shellac, 2, and linseed oil, 1 part. The bronze powder is then placed on the composition. Afterwards the metallizing composition is covered by a paste composed of starch, 7, and French glue, 1 part. The plate is then placed in a press with the cloth. Flock may be put on the cloth similarly.

*Claim.*—The above described improved process of embossing and metallizing cloth or other material, such consisting in the employment of the gum, oil, and paste, or their equivalents, with the embossing plate and metallizing material under circumstances and in the manner substantially as specified.

**71,214.**—HENRY B. PORTER, Chicago, Ill.—*Hotel Annunciator*.—November 19, 1867.—The bell is rung, and the number of the room is shown by a sliding plate, which is restored to position by turning the crank.

*Claim.*—First, the sliding plates B, provided with the projections *n* and *n'*, in combination with the front plate A, the standards D, and the horizontal rods *r*, all arranged as and to operate in the manner substantially as specified.

Second, the combination and arrangement of the pivoted catches *i* and the plates B, as and for the purposes set forth.

Third, the arrangement of the levers *l* in relation to the trip *k*, substantially as represented, and to operate the same in the manner specified.

**71,215.**—GEORGE M. RAMSAY, New York, N. Y.—*Air-tight Jar*.—November 19, 1867.—The inner circumference of the mouth is formed of arcs of circles of smaller diameter than that of the mouth. The head has a cylindrical neck turning within the salient points of the mouth, and having projections of similar outline to the mouth. The lid is engaged by a partial rotation.

*Claim.*—Contracting the inlet of a jar at three or more portions of its cross diameter, so as to hold the lid near the center, substantially as and for the purpose herein set forth.

**71,216.**—J. H. REIGHARD, Wheeling, West Va., assignor to J. H. HOBBS, BROCKUNIER & Co., same place.—*Glass Mold*.—November 19, 1867.—Water is injected into the hollow plunger through its tubular piston rod. The mold has a water jacket communicating with a raised reservoir.

*Claim.*—First, cooling the molds used in the manufacture of glassware, by means of water introduced into a chamber within the walls of the mold, substantially as above set forth.

Second, the use of the reservoir K, pipe L, spring valve *m*, and arm *n*, in combination with the mold G, having the chamber H, substantially as described.

Third, the use of the above described apparatus in combination with the press plate P, having the guides *o o*, substantially as and for the purpose set forth.

**71,217.**—FRANK H. RICHARDS, Troy, N. Y.—*Brand for Marking Animals*.—November 19, 1867.—The letter has hooked ends which rise above the plate and by which it is secured to the plate by the insertion of the double wedge between the plate and the hooks.

*Claim.*—The stock or frame consisting of the several parts, the plate *a*, the rib *b*, the arch *d*, and the handle *h*, combined and forming a single piece, the hooks *m m*, at the backs of the letters, and the double wedge *n*, the whole constructed substantially in the manner and for the purpose above described.

**71,218.**—E. S. RITCHIE, Brookline, Mass.—*Air Pump*.—November 19, 1867.—The piston rod has a frusto-conical valve at its lower end which is closed when the piston is raised. The stem of the stop valve, situated at the bottom of the cylinder, passes through a stuffing box in the piston, and is depressed by a lever against whose end the piston impinges when at the top of its stroke. This valve has a depending, prismatic guide rod, and an annular flap of oil silk to insure a close joint between the valve and seat.



*Claim.*—The combination as well as the arrangement of the lever *F*, the rod *q*, and the stuffing box *p*, with the valve *o*, the piston *B*, and the barrel *A*. Also, the application of the valve rod *q* to the valve *o*, so as to be movable laterally relatively thereto, in manner substantially as and for the purpose described.

Also, the combination and arrangement of the annular flap or auxiliary valve *w*, with the valve *o* and its seat *k*.

Also, the combination of the prismatic guide *n*, or its equivalent, with the valve *o* and the passage *l*, and with the rod *q* applied to the valve *o*, so as to be movable laterally therein, or with respect to it, as specified.

**71,219.**—S. S. RITTER, Philadelphia, Pa.—*Trunk.*—November 19, 1867.—The angle-iron end frames are connected by bars running around the opening between the lid and body. The bottom, top, and sides are covered with a single piece of leather lined with pasteboard. Each end consists of one piece, whose edge is brought around the corners and beneath the edges of the other leather and riveted.

*Claim.*—First, as an article of manufacture, the trunk above described, having the end pieces *E E* clamped into the shape described and shown, and attached to the trunk by the rivets *r r* at a distance from the corners or angles of the trunk, so as to leave the latter perfectly smooth, substantially as and for the purpose specified.

Second, the process or method of constructing trunks, valises, &c., substantially as above described.

**71,220.**—JOSEPH ROHR, Batesville, Ind.—*Baby Walker.*—November 19, 1867.—The circular platform extends as far as the rotating arm. The latter has the supporter and the toy table near its end, and rests at its axis upon a disk having a ratchet which is engaged by a pawl to prevent back rotation.

*Claim.*—A baby walker, having platform *A*, standards *B* and *C*, set screw *D*, swinging bar *F*, supporter *H*, toy table *K*, and ratchets and pawl, as described, all constructed and arranged substantially as and for the purposes herein specified.

**71,221.**—FRED. ROHRER, San Francisco, Cal.—*Lamp Extinguisher.*—November 19, 1867.—A base plate fits loosely around the wick tube and rests upon a forked lever, by which it is raised. Two metallic plates are hinged to the outer edge of the base plate, their upper edges resting against the wick tube. When the base plate is raised the hinged plates meet over the flame.

*Claim.*—A lamp extinguisher, constructed and arranged substantially as described, as a new article of manufacture.

**71,222.**—JOHN C. ROHRMAN, Philadelphia, Pa.—*Conductor Pipe.*—November 19, 1867.—The pipe conveying water from the eave gutter to the ground has a longitudinal groove made by bending, lapping, and soldering the edges of the plates, so that the pipe may be allowed expansion and contraction in frosty weather.

*Claim.*—A waste-water pipe, having a longitudinal recess or groove *a*, made substantially as described, by bending, lapping, and soldering the edges of the plates of which the pipe is composed, for the purpose specified.

**71,223.**—E. A. G. ROULSTONE, Roxbury, Mass.—*Trunk.*—November 19, 1867.—The tray has pins projecting longitudinally from its hinge corners, which pass through plates fastened to the frame. The other devices are explained by the claims and illustration.

*Claim.*—The employment of leather, or equivalent flexible material, having its surface formed into alternate parallel ribs and furrows, substantially as shown and described.

Also, forming the metal corner of a bag or trunk frame or molding of separate pieces of angle metal, united as set forth.

Also, attaching the strap to the trunk body by means of a loop, connected with and held by a fastening plate or projections within the trunk, substantially as set forth.

Also, the manner of hanging the tray, substantially as shown and described.

**71,224.**—C. H. S. SCHULTZ, Cincinnati, Ohio.—*Fire Fender or Guard.*—November 19, 1867.—The screen has adjustable hooks for attachment to the grate, and a door to allow attention to the fire.

*Claim.*—First, the provision in a fire guard of the door or flap *B*, as and for the purpose set forth.

Second, the arrangement of the adjustable hooks *D* with the nuts *E* and clips *F*, for the object explained.

**71,225.**—DAVID A. SCOTT and JONATHAN E. BURDGE, Cincinnati, Ohio.—*Bed Bottom.*—November 19, 1867.—The free ends of wire springs are looped around the slats and horizontal transverse bars by which they are transfixed.

*Claim.*—Passing the rods *E E* transversely through a series of longitudinal slats *a a*, and under the arms *c c* of a like series of springs, for the purpose of securing the slats in their places, substantially as and for the purpose set forth.

**71,226.**—JOSEPH SCOTT, JOHN SCOTT, and WILLIAM MILLER, Brooklyn, N. Y.—*Coal Scuttle.*—November 19, 1867.—Explained by the claims.

*Claim.*—First, a coal scuttle, constructed as described; that is, by forming the joint between the body and bottom by flaring the bottom edge of the body outwardly, and turning or striking up a corresponding flange on the bottom plate, and then forming a bead with the two together, substantially as shown and described.

Second, in combination with the above joint, the beaded upper edge of the base *C*, for attachment in the manner specified.

Third, a coal scuttle, constructed substantially as described, whereby the body and base may be packed in separate nests, to be connected at pleasure, as and for the purposes set forth.

**71,227.**—ALFRED M. SEABURY, Johnstown, N. Y., assignor to CHARLES W. DUBOIS, Brooklyn, N. Y.—*Cross-cut Saw.*—November 19, 1867.—Slots in the edge of the saw separate it into sections, which are formed alternately into scoring and chisel teeth.

*Claim.*—A cross-cut saw, formed with groups of diamond or scoring teeth *c c* and chisel teeth *d d*, standing in one direction, and with notches between said groups of teeth, as and for the purposes specified.

**71,228.**—ANSON SEARLS, San Francisco, Cal.—*Carriage-Top Prop.*—November 19, 1867.—The attaching claws are upon separate semi-cylindrical pieces, with extended surfaces bearing upon the bow. The pieces are held together, and the claws around the under side of the bow, by a sleeve, which is depressed by the head of screw bolt, whose point enters the bow.

*Claim.*—First, the tubular joint bar standard *B*.

Second, the clamp or claw, or equivalent.

Third, the screw bolt *C*, that passes through the joint bar standard *B* and a part of the clamp, holding them firmly together and in position.

Fourth, the combination of the joint bar standard *B* with the clamp *A*, in combination with the screw *C*, for the purposes substantially as described.

**71,229.**—EDWARD L. SEYMOUR, New York, N. Y.—*Manufacture of Bricks, Retorts, Muffles, Crucibles, &c.*—November 19, 1867.—Pure pulverized emery is mixed with hydrated alumina, or silicate of alumina.

*Claim.*—The employment of pulverized emery, in combination with any one or more of the materials aforementioned, for the purpose specified.

**71,230.**—EDWARD L. SEYMOUR, New York, N. Y.—*Manufacture of Cast Steel.*—November 19, 1867.—The granulated ore is calcined in a furnace to convert its hydrated and anhydrous peroxides of iron into magnetic oxides, which can be extracted by rotating magnets. The metal is then kept at a red heat, in proximity to charcoal, to remove the oxygen. It is afterward fused with carbon to form steel.

*Claim.*—First, the conversion of the non-magnetic peroxides and carbonates into magnetic oxides of iron, in the manner and for the purposes specified.

Second, the metallization of iron ores at a red heat without fusion of the particles, as described and for the purposes stated.

Third, the fusion of the metallized matter, as de-



scribed, and for the purposes explained in the specification.

**71,231.**—JOHN SHELLEY, Harlem, N. Y.—*Apparatus for Mixing Mortar for Building Blocks.*—November 19, 1867.—The cylinder rotates on hollow bearings through which water and steam are introduced to the lime and sand. The mass is mixed by a stationary frame within the cylinder. It is intended for use in the manufacture of building blocks.

*Claim.*—First, the stationary hollow pipe E passing through the trunnions *b b*, and extending longitudinally through the center of the cylinder A to which the water and steam pipes are both connected, the same being provided with holes or outlets on the under side, as herein described.

Second, in combination with the stationary pipe E, the arms *i i i i*, and scrapers or blades I I, the revolving cylinder A, operating in the manner as herein described, for the purposes set forth.

Third, the arrangement of the water tanks G G, the connecting water and steam pipes H H, with their stop cocks *h h* placed at one or both ends of the revolving cylinder, so that both steam and water may be alternately introduced into the mixture, substantially in the manner herein set forth.

**71,232.**—JOSIAH SHEPARD, New Britain, Conn.—*Kite Frame.*—November 19, 1867.—The wires pass through a plate near their intersections and have perforated metallic tips for the marginal string to which the paper is attached.

*Claim.*—First, a kite frame formed of ribs of tempered steel or metal wires, as set forth.

Second, the saddle piece *a* made in the manner as set forth, for receiving the wire ribs, as specified.

Third, the tips made with holes for the cord forming the border of the kite and with holes for receiving the ends of the ribs, as set forth.

**71,233.**—JOHN SHOEMAKER, Putneyville, Pa.—*Apparatus for Manufacturing Gas and Oil from Coal.*—November 19, 1867.—The cylindrical retort is placed on a common stove hole. The vapors pass through the rectifier and through the worm. The oil flows back to a receiver and the gas to the burners.

*Claim.*—First, a retort for distilling bituminous coal, adapted for application to an ordinary stove, in combination with a rectifier B, pipes G and L, receiver H, vessels I, and condenser K, arranged substantially as set forth.

Second, the combination and arrangement of the retort A, safety valve E, rectifier D, constructed as described with the pipe G, receiver H, vessels I, condenser K, worm L, and connected branch pipes, substantially as and for the purpose set forth.

**71,234.**—A. SHUNK, Sr., Bucyrus, Ohio.—*Plow.*—November 19, 1867.—The heel of the landside has a vertically adjustable piece to regulate the depth of furrow and compensate for wear. The colter has a backward bend to prevent accumulation of trash upon it.

*Claim.*—First, the construction of landsides of plows, with flanges in the form herein described, and for the purposes herein mentioned.

Second, the construction of plow colters with an inward curve above that part which cleaves the ground, in the form herein described and for the purpose herein mentioned.

**71,235.**—SIMON SHLOSS, F. VEERKAMP and C. F. LEOPOLD, Philadelphia, Pa.—*Keyhole Guard for Door Locks.*—November 19, 1867.—The case is placed over the keyhole with its projection inside the same and the cap partially rotated; this, by means of the segmental piece, turns the cross-piece which then stands transversely to the keyhole. The segment can only be turned back to release the plate by the backward turning of the case when the proper key is inserted through the side of the case.

*Claim.*—First, a case A with its projections *a*, cap B, segmental plate D, and piece *d*, the whole being constructed for attachment to a lock, and for operating substantially as and for the purpose herein set forth.

Second, the combination of the shoulders or stops *e* and *f* of the case A, with the lugs *i* and *i'* of the cap B, for the purpose specified.

Third, the combination, substantially as described, of the cap B and its lugs *i* and *i'* with the segmental plate D, for the purpose herein set forth.

Fourth, the lugs *i* and *i'* of the cap B for guiding the key F, as set forth.

**71,236.**—J. B. SMITH, Milwaukee, Wis.—*Coffee Pot.*—November 19, 1867.—The inner pot contains the decoction, and the outer chamber is furnished with water, through which medium the decoction is heated.

*Claim.*—A coffee-pot consisting of the inner vessel B and the outer vessel A with a water space between them, united at their top by an annular plate, having an opening G at the rear side only for the introduction of water, substantially as described.

**71,237.**—J. B. SMITH, Milwaukee, Wis.—*Coffee Pot.*—November 19, 1867.—Similar to the foregoing, with the addition of a shield.

*Claim.*—First, shield H, in combination with double coffee-pot A and B and handle F, substantially as and for the purpose described.

Second, double coffee-pot A and B with opening G, shield H, and covers C and E, combined and arranged as described.

**71,238.**—LEVI S. SMITH, Gorsuch's Mills, Md., assignor to himself and JOS. V. WINEMILLER, same place.—*Broom Head.*—November 19, 1867.—The brush is clamped with the links by the sliding blocks and screws, and the links drawn into the cap by a screw of the handle which engages the cross-head to which the links are hung.

*Claim.*—The cap or socket A, in combination with the links G G, cross-head H and screw B, substantially as described for the purpose set forth.

Also, in combination with the links, the clamping blocks and screws.

**71,239.**—CHARLES F. SPENCER, Rochester, N. Y.—*Sealing Fruit Cans.*—November 19, 1867.—The can is sealed by a disk of lead which is secured in a circular countersink.

*Claim.*—The combination of the lead or equivalent seal with the countersunk or depressed seat, as and for the purpose set forth.

**71,240.**—STEPHEN J. SPENCER, Yorkshire, N. Y.—*Vehicle.*—November 19, 1867.—The plates which are attached to the box bottom have depending ends connected by rods to the bolts which secure the springs to the spring bars.

*Claim.*—Plates D D, secured to the bottom of the box or body, and the rods E E, connected to the upper portion of the springs, when used substantially as and for the purpose set forth.

**71,241.**—T. B. STEWART, Wethersfield, Conn.—*Car Axle Box.*—November 19, 1867.—The side of the box next to the wheel has a cylindrical projection with an out-turned flange at its edge, and this enters an annular projection of the wheel, having an in-turned flange. The saddle boxes in which the axle turns have projections which enter cavities in the boxes or case above, by which they are held to position.

*Claim.*—First, the combination of the tubes B and C with flanges *a* and *b*, arranged upon the box and wheel substantially as herein shown.

Second, the crescent-shaped saddle *f*, having tenons *g g g* upon their outer surfaces, and cavities *h h h* on their inner surfaces, arranged substantially as shown.

**71,242.**—CORNELIUS ST. JOHN, Charlestown, Mass.—*Lamp.*—November 19, 1867.—The chimney is placed upon an annular wooden block, which is interposed between it and the heated metal, to keep the lower part of the chimney cool. The wick has two raising wheels on separate shafts by which either side may be raised.

*Claim.*—The combination, with the base and wick tube of a lamp burner, of the cylindrical chimney rest and supporter A, of wood or other suitable material which is a non-conductor of heat, substantially in the manner and for the purpose herein shown and specified.

Also, the combination, with the wick tube and base of the burner, of the chimney rest A, deflector *e*, and



perforated plates, by which said chimney rest and deflector are supported and held in position with relation to the wick-tube, substantially as herein shown and set forth.

Also, the adjustable spring, applied to the side of the burner, for sustaining the chimney in place, essentially as set forth.

Also, the peculiar arrangement and application of the wick-elevating shafts *i k*, essentially as herein shown and described, and productive of advantages as explained.

**71,243.**—WILBER SWATHEL, Southington, Conn., assignor to W. J., H. H. and C. H. Clark, same place.—*Machine for Heading Bolts.*—November 19, 1867.—The bolts are received in form of round bars, and after heating are introduced into the machine one by one and are seized by the dies. A portion projecting therefrom is compressed against the dies and formed into a head.

*Claim.*—First, in bolt machines the two independent clappers G and L and the two separate projections B<sup>1</sup> B<sup>2</sup> on the shaft B and the wedge piece E, arranged as represented, so as to operate relatively to each other and to the header and moving die, substantially as and for the purposes herein set forth.

Second, holding the header and slide K forward while the clapper L rises by the catch M, or its equivalent, arranged and operating substantially in the manner and for the purpose herein specified.

**71,244.**—JOHN M. THATCHER, Bergen, N. J.—*Air-Heating Furnace.*—November 19, 1867.—Explained by the claims.

*Claim.*—First, in combination with the fire-pot a central feeding funnel in the form of two hollow frustra of cones, united together at their smallest ends, substantially as described.

Second, the clinker-cleaning passage, from and through the furnace front to and into the fire-pot, enclosed by the plate connected with the fire-pot, furnace front, and ash pit, so as to prevent communication with the hot-air chamber surrounding the fire-pot, substantially as described.

Third, in combination with the clinker-cleaning passage the downward passage leading therefrom to the ash pit, substantially as described.

Fourth, in combination with the ash pit, grate, and downward passage, leading from the clinker-cleaning passage-way and sifting drawer, having a perforated bottom extending forward of the grate bars and across underneath said downward passage, substantially as described.

Fifth, the sliding dead plate or front bearer to the grate, in combination with the grate and downward passage, substantially as described.

Sixth, the combination of the corrugated bottom plate of the flue passage from the fire-pot to the chimney with the air-heating tubes which pass through said passage, which tubes are arranged in rows and joined to the corrugated plate upon the ridges or V-parts of said plate, which project up into the flue passage, whereby the ashes, or other solid matter, coming from the fire-pot is prevented from accumulating between the tubes of each row, and forced to accumulate in the grooves or depressed portion of the corrugated bottom plate between the several rows of tubes, thus affording facility for cleaning the bottom plate and increasing the heating surface, substantially as described.

Seventh, in combination with the flue passage *p* and vertical air-heating tubes the cleaning passage, leading from the rear of said flue passage, of the full width thereof, to and through the rear wall surrounding the furnace, substantially as and for the purposes described.

Eighth, the combination of the flue passage, increasing in depth, with air-heating tubes, increasing in length in proportion to their distance from the fire-pot, whereby greater tubular air-heating surface is obtained to compensate for diminished heat, substantially as described.

Ninth, in combination with the flue passage and vertical air-heating tubes the two connecting flues which connect said flue passage with the main flue leading from the chimney, said two flues connecting with the flue passage on opposite sides and near the bottom thereof, substantially as described.

**71,245.**—ELIHU H. THOMAS, Jr., Brattleboro', Vt., assignor to J. ESTEY & Co., same place.—*Organ Bellows.*—November 19, 1867.—A cord is attached to the upper edge of the pumping board of the bellows and passes along the convex edge of a sector whose vertex is hinged to the said board. The cord passes from the sector to the treadle.

*Claim.*—The combination and arrangement of the sector and its hinge with the strap, the pedal, the bellows, and its operative spring, the whole being substantially as specified.

**71,246.**—JARED THOMPSON, Milwaukee, Wis.—*Abdominal Supporter.*—November 19, 1867.—The perforated, cup-shaped pessary is supported on a wire which enters a cylinder containing a spiral spring by which the wire is supported. The supporting wire of the cylinder is curved forward and adjustably attached to the front plate of the frame. The side rods are hinged to the fore plate and to a spring bar at the rear, to which oblong pads are connected by serews. The serews may be loosened sufficiently to allow the pads an oscillatory movement.

*Claim.*—First, the adjustable pads *h h*, attached to the bar *g*, substantially in the manner described and for the purpose set forth.

Second, the abdominal pad *e*, provided with the loop *l* and its set-screw *d*, the supporting wire *c*, provided with a spring ease *b* and the pessary *a*, when constructed and arranged as set forth.

Third, the attaching to the bar above described two springs for the purpose and in the manner substantially as above set forth.

**71,247.**—SAMUEL A. TRAUGH, Cincinnati, Ohio, assignor to himself and JEPHTHA GARRARD, same place.—*Car Wheel.*—November 19, 1867.—The web of the wheel is formed in convolute corrugations to prevent fracture from change of temperature or concussion.

*Claim.*—A cast wheel, whose web is composed of the undulating scrolls or convolutions A, formed and arranged as and for the purpose described.

**71,248.**—C. N. TYLER, Buffalo, N. Y.—*Lamp.*—November 19, 1867.—The lighted end of the wick has its center removed, leaving cylindrical side pieces for burning. The flaring, upper end of the wick tube has holes for the admission of air between the upper end of the supply wick and the upper edge of the burner.

*Claim.*—First, the combination wick W X, consisting of a supply wick, combined with two or more combustion wicks, by means of a braided or other covering, substantially as and for the purposes set forth.

Second, the wick tube A, when flared and grooved and provided with openings *o*, substantially as and for the purposes set forth.

Third, the combination of the wick W X and the wick tube A, substantially as and for the purposes set forth.

Fourth, arranging the combination wick so as to leave a space *s* between the top of the supply wick and the top of the burner, substantially as described.

**71,249.**—PETER VONLACKUM, Elba, Minn.—*Snow Plow.*—November 19, 1867.—The plow is to clear a railroad track. The corrugated flanges on the wheels break the ice which adheres to the rails. The incline raises the snow, which is divided right and left by the double mold board.

*Claim.*—First, the snow plow, consisting of the front incline C, the double concave wings D, and the cutting bars *a b* and *d*, all constructed and arranged to operate as and for the purpose set forth.

Second, the wheels E, when provided with the corrugated flange, as herein shown and described.

**71,250.**—ALBERT VOSE, Pittsfield, Vt.—*Hay Loader.*—November 19, 1867.—The fork is carried at the end of the lifting arm, which is attached to a shaft rocked by a segmental rack that may be made to engage a bevel gear on the wheel. The cords operating the lifting mechanism are carried up a post on the rack to within reach of the loader. One cord is connected to the clutch lever, engaging the lifting gears, and the other attached to an arm of the rock



shaft and preventing too rapid descent or serving to raise it slightly.

*Claim.*—First, the combination of the sliding shaft *a* and spring *g*, substantially as and for the purposes set forth.

Second, the combination of the sliding shaft *a* provided with a toothed segment *u*, cogged wheel *A*, spring *g*, and lever *f*, substantially as and for the purposes set forth.

Third, the lifting arm *h*, or its equivalent, when the same is adjustable laterally, substantially as and for the purpose set forth.

Fourth, the lifting arm *h*, pivoted to the elevating shaft *a*, substantially as and for the purpose set forth.

Fifth, the combination of the pivoted lifting arm *h*, pivoted brace *i*, and shaft *a*, substantially as and for the purpose set forth.

Sixth, the combination of the shaft *a*, arm *x*, and cord *w*, substantially as and for the purposes set forth.

Seventh, the combination of the lifting arm *h*, or its equivalent, and an elevated fork *n* pivoted thereto, substantially as and for the purpose set forth.

Eighth, a combination of a laterally adjustable lifting arm *h* and elevated fork *n* pivoted thereto, substantially as and for the purposes set forth.

Ninth, the combination of a laterally adjustable lifting arm *h* and a vertically adjusting arm *i* attached thereto, and supporting the fork *n*, substantially as and for the purposes set forth.

Tenth, an elevating fork *n*, as connected to its lifting arm *h*, that it may be readily detached therefrom for the purpose of unloading the hay, substantially as described.

Eleventh, the combination of the forked arm 5, block or plate *o*, and nuts 7 7, substantially as and for the purpose set forth.

Twelfth, the combination of the notched sliding bar *r*, tines *n*, guides and pawl *s*, substantially as described.

Thirteenth, the automatic tripping device *v*, consisting of the arm *v* on the lifting arm *h*, and the pivoted pawl lever *s* on the pivoted fork *n*, arranged and operated substantially as described.

**71,251.**—ROBERT L. WALKER, Globe Village, Mass.—*Water Grate for Furnaces.*—November 19, 1867.—The water passages in the side bars communicate with the transverse discharge passage, whose exit is opposite to the water inlet opening into the central bar.

*Claim.*—A water grate, made with the passage into and through its middle bar, and with two serpentine passages *a a* leading from one end of such bar in opposite directions and through the other bars, as specified.

Also, a water grate, as made not only with the passage into and through its middle bar, and with two serpentine passages *a a* leading from one end of such bar in opposite directions through the other bars, but with a common transverse passage *e* provided with a discharge opening *f*, as described.

**71,252.**—THOMAS V. WAYMOUTH, New York, N. Y.—*Envelope Machine.*—November 19, 1867.—The envelope is creased by the descending plunger and the flaps turned in by the jointed folding plates. The sealing flap folder is hinged at so low an elevation that it cannot be brought fairly down on the table, but leaves this flap somewhat open.

*Claim.*—First, attaching the wing used for folding the seal flap of envelopes to the machine or frame at a lower level than the upper surface of the bottom of the folding press, for the purposes set forth.

Second, so arranging the front wing *a* called the seal flap wing, in combination with folding press, by means of the adjustable stop *f*, or any suitable device, that such wing can be turned upon the press at different angles, or can stand vertically, as desired.

Third, the arrangement and combination, substantially as described, with the plunger *B* and folding press *C*, of the projecting lines *m n* and grooves *l o*, for the purposes set forth.

Fourth, the combination with the plunger *B* and folding press *C*, substantially as described, of the roughened surface *p* and yielding cushion *q*, for the purposes set forth.

**71,253.**—MARSHALL D. WELLMAN, Allegheny City, Pa.—*Grate.*—November 19, 1867.—The agita-

tors are pivoted beneath the grate and extend up through the apertures flush with its top. The pendent arms are connected to bars having connections outside the furnace by which they are moved.

*Claim.*—The agitators *C C* constructed as described, and secured between the spaces in the grate *B*, with its projections *e e*, the whole being constructed and operating in the manner substantially as and for the purposes specified.

**71,254.**—LUCIUS WHEATON, Auburn, N. Y.—*Trunk Hinge.*—November 19, 1867.—The leaves of the hinge lap around and protect the corners of the lid and body of the trunk.

*Claim.*—The upper part *A* provided with slot *e*, in combination with lower part *B*, when both are constructed and hinged, substantially in the manner specified.

**71,255.**—WILLIAM N. WHITELY, Springfield, Ohio.—*Harvester.*—November 19, 1867.—The lower end of the pitman is forked and has a double conical connection to the cutter bar, the forks being drawn together by a bolt which has a fixed plate interposed between its under nut and jam nut. The crank end of the pitman has a box pivoted on centers, one upon the end of the pitman rod, and the other on a set screw. This allows an oscillation of the pitman to suit an inclination in the cutter bar.

*Claim.*—First, a projecting stop pin *H*, or its equivalent, on the pitman, which, when folding the cutter bar, will come in contact with a stationary part of the guide bar or shoe, and prevent the knife from running out of the shoe, as set forth.

Second, a plate *J* secured at one end to the pitman and placed between the under and jam nuts on a clamping bolt, as and for the purposes described and set forth.

Third, in combination with the pitman *A* of a harvesting machine the solid ring head *L*, as and for the purpose described.

**71,256.**—CHARLES P. WILLIAMS, Philadelphia, Pa., assignor to himself and GEORGE T. LEWIS, same place.—*Manufacture of Phosphate of Soda, &c.*—November 19, 1867.—The phosphate of soda is made from apatite or the phosphatic guano and cryolite. A mixture of the phosphates and cryolite in equivalent proportions is heated in a furnace. Phosphate of soda, alumina, and fluoride of calcium are produced. The cold mass is lixiviated, whereby the phosphate of soda is dissolved. The phosphate of soda is either crystallized or treated with a solution of lime to form caustic soda, having a precipitate of finely divided phosphate of lime.

*Claim.*—The art or manufacture of the phosphate of soda and other phosphates by the process or method herein shown and described.

**71,257.**—WILLIAM ANSON WOOD, Hoosick Falls, N. Y.—*Harvester Guard Finger.*—November 19, 1867.—The main part of the finger is made of malleable or wrought iron, and has a recess on its upper side to receive a slotted piece of steel or chilled iron in which the cutter reciprocates.

*Claim.*—First, inserting in the main body of a guard finger for a harvesting machine a piece of metal, harder than the main body of the guard finger, when the piece so inserted shall form the entering guard cap, and also a complete lining to the cutting cavity through which the cutters vibrate.

Second, constructing a guard finger with lips *h h*, in combination with the hardened piece *B*, or their equivalents, substantially as and for the purpose set forth.

**71,258.**—JOSEPH WOODRUFF, Pittsburg, Pa.—*Sleeping Car.*—November 19, 1867.—Explained by the claims and illustration.

*Claim.*—First, a double couch or berth for the upper tier in a sleeping car, consisting of two leaves so hinged together that the outer leaf folds upward, and the inner leaf being attached to the side of the car by hangers *c c*, so that the couch thus formed may be folded and swung up toward the roof of the car, substantially as hereinbefore described.

Second, a detached and removable partition *m*, when so constructed as to divide the space occupied by the berths of a sleeping car into separate com-



partments at night, and to be removable by day so as to permit the free passage of air through the car, substantially as and for the purposes hereinbefore set forth.

**71,259.**—JOSIAH YEAGER, Berksburg, Pa.—*Machine for Cutting and Punching Fly-net Straps.*—November 19, 1867.—The cutters are confined in a lozenge-shaped cavity by wedge blocks and a set screw. The cutters have metallic blocks between them by which the breadth of the laces is governed. The knives are depressed upon the leather by a lever and the leather is then drawn through beneath them.

*Claim.*—First, the construction of the knives or cutters *e* with the inclined cutting edge, substantially as described.

Second, the adjustment of the cutter bit or stock by means of the lever, as described.

Third, the manner of securing the knives and spacing keys by means of the set screws and wedges, as described.

Fourth, the two punches *ff* arranged in the bit or stock and secured therein by set screw, as described, for punching the holes in the strap in pairs, as set forth.

Fifth, the metal bed plate *F* adapted to receive the perforated guides for various sized straps, substantially as and for the purpose set forth.

**71,260.**—WILLIAM YOUNG, London, England.—*Grate, Fire-Place, or Furnace.*—November 19, 1867; patented in England April 11, 1866.—The fresh fuel is supplied to the box in which the spiral bars are mounted so as to admit of their being turned as required to raise the fuel into the fire. The spiral bars may be made hollow to allow passage to water to heat the same. When the spiral bars are used in a furnace they are inserted at the front of the fire-place. The fuel is gradually fed into the grate either by hand or machinery.

*Claim.*—The application to grates, fire-places, and furnaces of spiral bars adapted for the double purpose of feeding and raising the fuel to the fire and admitting air to the fuel, as hereinbefore described.

**71,261.**—J. B. ALEXANDER, Washington, D. C.—*Attaching Lamp Burners to Lamps.*—November 26, 1867.—That part of the burner usually screwed into the lamp has projections passing through notches in the collar. The burner is secured by a partial turn.

*Claim.*—The application of the device for attaching lamp burners to lamp fountains, as described and set forth.

Also, the projections *H* and *H'*, in combination with the burner *A* and the notches *L* and *L'* and the inclined planes *I* and *I'* and the projections *K* and *K'*, in combination with the collar *D*, or their equivalent, substantially as described and for the purpose set forth.

**71,262.**—CHARLES L. AMES, Bangor, Me.—*Carriage Evener.*—November 26, 1867.—The hammer and clevis pins pass through metallic plates secured to fore and rear sides of the double tree. The plates have series of evener holes.

*Claim.*—First, the central adjusting plate *a* when constructed and combined with the evener, in manner substantially as and for the purposes specified.

Second, the whiffletree adjusters *e e* when constructed and combined with the evener and whiffletrees, substantially as described and shown.

**71,263.**—JAMES ARMSTRONG, Bucyrus, Ohio.—*Machine for Planting Cotton Seed.*—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, the principle of planting cotton seeds in the condition they come from the gin by a machine conveying said seeds from the upper part of a hopper or case in longitudinal rows to the place of delivery at the lower end of said case by means of brushes, picks, and inclined grooves circling around a revolving cylinder, as herein described, or any other substantially the same, and which will produce the same ends herein intended.

Second, the principle of expelling cotton seeds from the case or hopper of a cotton planter singly by the percussion of a spring raised on and striking from inclined planes, substantially as herein shown.

Third, the construction and combined method of

operating the slide or cut-off *K* and the spring *N* by means of the lever *O* and pivoted and forked lever *M*, substantially as herein shown.

Fourth, the construction of the entire cotton-planter machine, as herein described, for the purposes set forth.

**71,264.**—WILLIAM D. BAUGHN, Milford, Mich., assignor to himself, GEORGE P. BOOTH, S. D. HONOWELL, and F. A. S. BURNHAM.—*Thimble Skein for Axles.*—November 26, 1867.—The thimble has a central oil cavity discharging through holes in its lower sides, and supplied through an axial hole in its outer end.

*Claim.*—The construction of a skein, whether of cast or wrought iron or steel as hereinbefore described, provided with the well or drop *C*, the opening *D* to receive the oil, and the holes or openings *E E*, &c., or their equivalents, for the purpose specified.

**71,265.**—H. L. BEACH, New York, N. Y.—*Scroll Sawing Machine.*—November 26, 1867.—The ends of the saw are secured to slide rods, which are reciprocated by rods connected to cranks on two shafts having pulleys connected by a belt. The shafts have cranks at the outer ends connected by an adjustable rod, by which the unequal rotation of the shafts is prevented.

*Claim.*—First, the saw-straining spring arrangement *N F S P*, in its combination and relative action with rod *R'*, crank shafts *C S* and *C' S'*, and saw *S*, all constructed in the manner and for the purpose above set forth and described.

Second, the combination of saw *S*, guides *G M G* and *G'*, rod *R'*, sliding guide rods *G R* and *G' R'*, cranks *C* and *C'*, crank shafts *C S* and *C' S'*, slotted pitman *P' I'*, and slotted connecting rod *C R*, the whole combined, constructed, and operating in the manner and for the purpose above set forth and described.

**71,266.**—W. G. BEDFORD, Philadelphia, Pa.—*Horse Coupling.*—November 26, 1867.—One part of the coupling has a socket admitting the tubular projection on the other part. The first part has segmental lugs. The lugs on the cylindrical projection of the second part impinge, when coupled, against the lower inclined faces of the lugs on the first part. The coupling is secured from disengagement by a pawl, which engages ratchet teeth on the tubular projection.

*Claim.*—First, a coupling, consisting of a section *A*, with a socket *a*, shoulders *b*, and lugs *d d*, and a section *A'*, having a tubular projection *a'*, lugs *e e*, and shoulder *f*, the two sections being constructed and adapted to each other, substantially as described.

Second the combination of the spring catch *n*, on the socket *A*, with the tubular projection *a'* and its ratchet teeth *i i*.

**71,267.**—LOUIS BEGON, San Francisco, Cal.—*Steam Rotary Valve.*—November 26, 1867.—The formation of the valve is such as to expose equal surfaces to the pressure of steam on its outer and inner surfaces when the ports are closed; and when the valve is oscillated so as to open the ports, an equivalent surface is covered on each side so as to keep it in equipoise.

*Claim.*—The arrangement of the openings *b b* and two exhaust passages *B B'* in the conical valve *A*, in combination with the ports *F F' G G'*, and exhaust ports *H* and *H'*, in the case *C*, substantially as described.

**71,268.**—GEORGE A. BEIDLER, Chicago, Ill.—*Lamp.*—November 26, 1867.—Explained by the claim.

*Claim.*—First, in combination with an annular oil reservoir, and an inner tube or air chamber for conducting air to the flame from below, a metallic wick tube, extending down into said air chamber, and so constructed and arranged as to operate as a conductor of heat, to rarefy the air in said chamber, and cause an ascending current therein, substantially as described.

Second, in combination with a tube or hollow case for conducting air to the flame from below, and a metallic conductor to convey heat down from the flame into said tube or hollow case and rarefy the air therein, to cause an ascending current, a glass globe



or cup surrounding the flame, with apertures for introducing air within said globe or cup, and feeding the flame above the dome deflector, substantially as described.

Third, in combination with a tube or hollow case for conducting air to the flame from below, and a metallic conductor to convey heat down from the flame into said tube or hollow case and rarefy the air therein, to cause an ascending current, one or more perforated plates, so located between the base, where the air enters the tube or chamber, and the flame, that the air must pass through said perforated plate or plates before reaching the flame, substantially as described.

**71,269.**—A. L. BOGART, New York, N. Y., assignor to H. C. BOGART and J. P. KENNEDY, same place.—*Gas Stove.*—November 26, 1867.—The caloric current resulting from the combustion of gas passes to the stove top, and descends through an annular chamber containing trays filled with quicklime to purify the same before its exit from the stove into the apartment.

*Claim.*—First, the combination of the burner T and vertical tube C with the funnel F, pipe H, trays J L, openings P, arranged substantially as herein described and for the purpose set forth.

Second, in parlor or heating gas stove, the use of quicklime or other suitable chemicals in the trays J and L, for the purpose set forth.

**71,270.**—G. W. BOOKWALTER, Roanoke, Ohio.—*Still.*—November 26, 1867.—A flue is carried from the rear end of the fire arch through the boiler bottom, thence with an elbow carrying it above the bottom to the front thereof, and thence with another elbow into the smoke stack.

*Claim.*—First, the flue D, arranged substantially as described for the purpose designed.

Second, the drum E upon the pipe that conveys the steam to the condenser, or any similar device for the purpose described.

Third, the combination and arrangement of the still boiler A, the conduit pipe B, the smoke stack C, with the flue D and the drum E, all arranged substantially as described for the purpose designed.

**71,271.**—EDWARD BRADY and JOHN SLOAN, Philadelphia, Pa., assignors to EDWARD BRADY, same place.—*Furnace for Roasting Ores and for other Purposes.*—November 26, 1867.—The furnace sides and top are made of a tight metallic shell, which forms the inner wall of a chamber containing circulating water.

*Claim.*—The construction of furnaces for melting ores, &c., making gas, bake ovens, and for other purposes, of the known forms, by the employment, application, and combination of metal plates B, with the compartment C constantly filled with water, all of which operate substantially for the objects set forth.

**71,272.**—CHRISTIAN BRENNEMAN, Orville, Ohio.—*Cattle Guard for Railways.*—November 26, 1867.—The ends of the flexible gates are supported on posts on which they have sliding movement when thrust outward by a passing train.

*Claim.*—First, the elastic gates D D, constructed and used substantially as and for the purpose herein specified.

Second, the guide posts A A B B, and stop posts H H, when used in connection with the elastic gates D D, substantially in the manner and for the purpose specified.

**71,273.**—W. H. BRIDGENS, New York, N. Y.—*Pea Sheller.*—November 26, 1867.—The pea pods are passed between the cylinder and concave, which are sufficiently separated to allow passage to the pod, but have pins which remove the peas. The peas fall through a sieve and the shucks are discharged thereby.

*Claim.*—A combination of the box or frame A, roller R, portions S S of a hollow cylinder, and pins P P, with or without a sieve B, substantially as herein set forth.

**71,274.**—NEAL N. BROWN, Reading, Pa.—*Pie Rimmer.*—November 26, 1867.—The serrated marking wheel has a radial flange at one side and operates

to crimp and trim the pie edge simultaneously. It is associated with a fixed and rotary marker.

*Claim.*—The plate handle A, with marker a at one end and ears B C at the other, said ears being slotted as described, securing the roller E, by means of its journals and the roller D, the whole being constructed and arranged together in the manner and for the purposes set forth.

**71,275.**—CLEMENS BYMER and JOHN IMLAY, Greensburg, Ind.—*Ditching Machine.*—November 26, 1867.—The fore end of the plow frame is supported on a caster wheel which is vertically adjustable to regulate the depth of cut. The rear end of the frame is vertically adjustable by cords and windlasses on the main axle. The earth is dug by the plow and side flanges of the elevator wheel, and the latter carries the earth upward and forward to the clearer and chute, by which it is removed from the wheel, and deposited beside the ditch.

*Claim.*—First, the wheel F, with side flanges F', and plow G, in combination with the adjustable compressing plate H and spring H<sup>2</sup>, substantially as described.

Second, the combination of the wheel F with side flanges F', and the side cutter I', substantially as described.

Third, the combination of the wheel F with side flanges F', the side cutters I', and the scraper and conveyor K, substantially as described.

Fourth, the combination of the frame A, caster wheel B, and the adjusting mechanism, consisting of the parts C D and E, substantially as set forth.

Fifth, the combination of the frame A, wheels L, and axle M, with the hinged rods P and the adjusting mechanism consisting of the parts O and N, substantially as set forth.

**71,276.**—FRANCIS O. CLARK, Benton's Port, Iowa, assignor to himself and JOHN E. REININGHAUS, same place.—*Stave Machine.*—November 26, 1867.—The block of wood is clamped to an oscillating table, and a stave blank cut therefrom by a dish-shaped saw. For jointing, the blank is clamped in a bent position on a sliding frame, and poised between two circular saws.

*Claim.*—First, the curved carriage C, fitted into a channel of the table B in the relation to a dish saw, and flush with the top of the table, the said carriage and table constituting parts of a stave-sawing machine, and the carriage being provided with head blocks, a clamping device, and the table with gauges, all substantially in the manner and for the purpose herein described.

Second, the table B of a stave-sawing machine, with a channel of curved form horizontally, and of a dovetail form vertically, cut down into it so as to form a depressed bed for the carriage C, and also guides therefor, substantially as and for the purpose set forth.

Third, jointing saws, mounted on inclined arbors, which are supported upon straight moving-endwise adjustable bearings h h, which are operated by the devices shown, or the equivalents thereof, substantially as described.

Fourth, the jointing jaws, mounted upon inclined arbors, which are supported upon straight moving-endwise adjustable bearings h h, which are operated by the devices shown, or their equivalents, in combination with the vertically vibrating frames j j, operated by the devices shown, or their equivalents, substantially as described.

Fifth, the combination of the straight moving-endwise adjustable bearings or frames h h, carrying inclined arbors with jointing saws upon them, the toggle joint, formed of bent links k' k' and the lever k, for the purpose of adjusting the saws at any desired distance apart, without changing their angle of inclination, substantially as described.

Sixth, providing for both adjusting the saws further apart without changing their angle of inclination, and for changing the angle of inclination, when desired, in the one machine, by the means substantially as described.

Seventh, the adjustable clamp e e', for accommodating one of the ends or different thicknesses of staves, in combination with the lever clamp d', substantially as described.

Eighth, making the bilge block both removable and



adjustable between the clamps *d' e'*, for the purpose of bilging different lengths of staves, substantially as described.

**71,277.**—FRANCIS O. CLARK, Benton's Port, Iowa, assignor to himself and JOHN E. REININGHAUS, same place.—*Stave Machine*.—November 26, 1867.—The staves are held in a bent state between adjustable feed rollers, by which they are passed beneath the coneave cutter head which dresses the outer side.

*Claim.*—The curved beds *s s'*, formed in the table top B, in combination with feed rollers *n n' p p'*, supporting roller *o*, and cutter head *r*, arranged as described, for the purpose of dressing curved staves.

**71,278.**—JAMES M. CLARK, Lancaster, Pa.—*Portable Fence*.—November 26, 1867.—The braces are connected by pins to the post top and "dog stake."

*Claim.*—First, the dog stake and pin D E', in combination with the movable brace C and post A, when constructed and arranged as and for the purpose specified.

Second, in combination with the above, the rider H, as shown and described.

**71,279.**—PATRICK CLIFFORD, Holyoke, Mass., assignor to himself and JAMES DOYLE, same place.—*Adjustable Spirit Level*.—November 26, 1867.—Improvement on his patent June 11, 1867. The level and index plate are pivoted to the straight edge by a stud upon the level case. The index plate has notches on its segmental edge which receive the tooth of the detent spring. The end of the pin which slides in lugs on the level case, when pushed in, rests on the head of a screw in the straight edge, by which the relative position of the level and index may be adjusted, the index being connected to the straight edge by the detent tooth.

*Claim.*—First, the graduated index plate *g*, having the angular notches *p p*, and central conical opening *g'*, in combination with the tapering spindle *u*, and spring detent *k*, the whole arranged and operating substantially as set forth.

Second, the adjusting pin *a'* and screw *b*, in combination with the revolving level case F and stock A B, substantially as described.

**71,280.**—THEODORE CLOUGH, Dobb's Ferry, N. Y.—*Lamp*.—November 26, 1867.—Air is forced into the space above the burning fluid and carried by pipes to form a jet at each side of the flame.

*Claim.*—The two lateral air-jet pipes, in combination with the wick tube, arranged substantially as hereinbefore described and shown, and for the purposes hereinbefore set forth.

Also, the combination of the wick tube, lamp reservoir, two air-jet tubes, and the air-supply tube, when arranged substantially as hereinbefore set forth, so that the air-supply pipe discharges into the upper part of the lamp reservoir, from whence the two air-jet pipes receive their supply, whereby the top of the lamp is kept cool, and vapors and gases removed from the lamp reservoir and consumed.

**71,281.**—THEODORE CLOUGH, Dobb's Ferry, N. Y.—*Lamp*.—November 26, 1867.—The variations between this and the preceding are explained by the claims.

*Claim.*—First, the combination of an air-jet pipe with the wick tube of a lamp, when the air-jet pipe is so constructed and arranged as to be capable of discharging air under pressure, in a fine jet or jets, in the middle of the flame of the wick, just above the wick, substantially as described.

Second, the arrangement of the air-jet pipe within the wick tube and lamp reservoir, when the reservoir is provided with a supply pipe, by which air is admitted to the upper part of the same, substantially as described.

Third, in combination with the air-jet pipe and wick tube, an adjusting screw, or its equivalent, whereby the position of the discharge aperture of the air-jet pipe relatively to the wick and wick tube may be determined.

Fourth, the short tubular removable wick or section of wick to be used with the stationary wick, substantially as described.

**71,282.**—H. W. COLLENDER, New York, N. Y.—*Billiard Cushion*.—November 26, 1867.—The cushion is formed of alternate layers of rubber and rubber-coated cloth, formed to shape and vulcanized together. It may be made lozenge-shaped, in section to be reversible.

*Claim.*—A new manufacture of strips for billiard-table cushions, composed of layers of soft vulcanized india-rubber and two or more interposed layers of cloth or other equivalent material, previously coated with india-rubber, the whole united and together vulcanized, substantially as and for the purpose specified.

Also, as the second part of said invention, vulcanized india-rubber strips, for billiard-table reversible cushions, of the form substantially such as herein described.

**71,283.**—HENRY V. CORBETT, Buffalo, N. Y., assignor to himself and EDGAR S. EVERTS, same place.—*Winches for Center Boards*.—November 26, 1867.—Chains from the upper corners of the center board are wound on the barrel of the windlass. The diameters of the sections of the windlass upon which the chains are wound bear relation to the distance which the corners of attachment move in the oscillation of the board so as to keep both chains taut. The windlass is moved by a lever with pawls operating on a ratchet wheel.

*Claim.*—The windlass barrel B B' and chains D D', in combination with the center board A, constructed, arranged, and operating in the manner substantially as herein described.

**71,284.**—W. C. CRONK, Auburn, N. Y.—*Steamer for Cooking*.—November 26, 1867.—The steam passes up through a central channel composed of frusto-conical sections of pipe, one of which is attached to each steamer. The lower, smaller end of each section enters the top of the one below, and the drip which flows from the close bottoms of the steamers into the pipe is carried off without contaminating any matters in the steamer beneath.

*Claim.*—So constructing and arranging the tubes which pass through the several steamers that various kinds of vegetables or meats may be cooked simultaneously without the fumes intermingling, as described.

**71,285.**—JOHN W. CURRIER, Holyoke, Mass., assignor to himself and J. B. GARDINER, Springfield, Mass.—*Trace Attachment for Whiffletrees*.—November 26, 1867.—The frame is hinged to the single-tree, and is similar to that of a buckle. It has an inwardly projecting tongue engaging the hole in the trace end. A spring holds it to place.

*Claim.*—The arrangement herein described for connecting the trace to the whiffletree, consisting of the combination of the parts A and B and spring C, substantially in the manner and for the purpose herein set forth.

**71,286.**—ALONZO M. DARLING, Davenport, Iowa.—*Bag Holder and Filler*.—November 26, 1867.—The turn-table has space for two measures, which may be semicylindrical, so as to occupy the whole space and prevent the grain dropping between them as the table rotates to bring the empty one beneath the grain spout. The bag is held by spring frames of wire depending from a horizontal arm.

*Claim.*—First, the two distinct springs F and G sustaining and holding open the sack without fastenings, and leaving the space under the holder and around the sack free and open.

Second, the combination of a bag holder, as shown, with the turn-table B, all arranged substantially as and for the purposes set forth.

**71,287.**—J. N. DENNISON and ROSCOE J. GOULD, Newark, N. J.—*Pump for Fire Engines*.—November 26, 1867.—Improvement on patents of John N. Dennison, February 7, 1865, April 24, 1866, and October 23, 1866. The pump rod has two pistons, separated by a partition, but communicating with the same receiving and discharging pipe. The suction valves of each cylinder have levers that connect with a rod passing through the cylinder head, and by which the valves may be raised to throw either piston out of operation, so that the whole power of the engine may



be devoted to the other piston for throwing a small quantity of water a great distance.

*Claim.*—The arrangement of rods R S, in combination with the receiving or discharging valves of a pump, substantially as and for the purpose described.

**71,288.**—EDWIN A. EATON and WILLIAM CARLTON IRELAND, Boston, Mass., assignors to SANBORN STEAM FIRE-PROOF SAFE ASSOCIATION.—*Fire-proof Safe.*—November 26, 1867.—The tubes are frusto-conical, are inserted in the top and bottom plates of the vessel, and run diagonally from plate to plate. The larger ends of the pipes are stopped by a fusible plug.

*Claim.*—A water vessel for steam fire-proof safes, in which the inlet and outlet tubes are constructed and arranged and operate substantially in the manner and for the purpose set forth.

**71,289.**—ANDREW N. ELZY, Placerville, Cal.—*Churn.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—A churn-dasher with a central revolving shaft B, carrying oblique arms E and square arms G, alternating with each other, and spirally arranged upon the shaft.

**71,290.**—THOMAS EVANS, Newark, N. J.—*Tack Hammer.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—A hammer head constructed with a socket b, having openings in its sides, with spur projections therein for securing the handle when driven into said socket, substantially as shown and described.

**71,291.**—JESSE FEWKES, Newton, Mass.—*Spool Supporter.*—November 26, 1867.—The upper portion of the spindle is hinged at its upper end, and is turned out for insertion into the bobbin socket. The lower end of the latter, when in position, receives a stud in the lower part of the frame.

*Claim.*—A spindle b, pivoted loosely within its frame A, in combination with a pin c or equivalent device, substantially as and for the purpose set forth.

**71,292.**—J. H. FLEMING, Groton township, Ohio.—*Windlass Crank Power.*—November 26, 1867.—The hand crank has a ring at its inner end loosely embracing a disk keyed to the barrel shaft. The disk has circumferential recesses receiving a lug on the inside of the crank ring, by which it is rotated. The crank is hinged to the ratchet shell, whose teeth engage a pawl to prevent backward rotation of the barrel. This backward rotation is permitted by turning back the crank which disengages the lug, the handle acting as a brake on the disk.

*Claim.*—The handle A, having a loop or ring B and lug G, and pivoted to the shell C, arranged in relation to the ratchet E, operating with said loop or ring, and in combination with the pawl and ratchet, substantially as and for the purpose set forth.

**71,293.**—CHARLES FRANK, Cincinnati, Ohio.—*Tanning.*—November 26, 1867.—Improvement on patent No. 52,655; in place of the turpentine there mentioned the like quantity of hydro-carbon oil is used.

*Claim.*—The tanning process or operation, substantially as described.

**71,294.**—WILLIAM B. GLEASON, Boston, Mass.—*Plastic Material to Imitate Wood and Other Substances.*—November 26, 1867.—Oil and sawdust are kneaded together while heated, and are then pressed into oiled molds.

*Claim.*—As a new manufacture articles made in molds and under pressure of the ingredients specified, with or without the use of oil, substantially as described.

**71,295.**—E. H. GOELET and E. B. GOELET, Goldsborough, N. C.—*Seeding Machine.*—November 26, 1867.—The guano and cotton seed are placed in contiguous hoppers, and are stirred and driven through the openings in the hopper bottom by a single longitudinal rotating shaft. The listed ridge is scraped and recessed, and the seed and fertilizer deposited, covered by the teeth, and then rolled.

*Claim.*—First, the construction of the scraper and leveller K L with slot c, tooth J, and covering teeth d d, arranged beneath a hopper box, having apart-

ments G G', rotary distributors b b', and hinged bottom H, substantially as described.

Second, the scraper K L, with its tooth J and coverers d d, slot c, and inclined guards I I, arranged beneath a cotton seed and a guano distributor, so as to operate substantially as described.

Third, the application of a drill opener, a scraper and leveller, a cotton seed distributor, a coverer, and a roller, to a frame A, which is mounted upon two wheels, when these wheels serve as drivers and markers, substantially as described.

**71,296.**—CHARLES A. GRANDEY, Rutland, Vt.—*Lubricating Composition.*—November 26, 1867.—Composed of melted tallow, 1 gallon; cold soft soap, 1 gallon; milk of sulphur  $\frac{1}{2}$  ounce; alum,  $\frac{1}{4}$  ounce; and autimony,  $\frac{1}{4}$  ounce.

*Claim.*—The combination of tallow, soft soap, sulphur, autimony, and alum, in the proportions or their equivalent set forth, and using it as a lubricator for journals.

**71,297.**—JOHN HABERMEHL, Wheeling, W. Va.—*Fire Back for Grates and Stoves.*—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, the fire back of an open grate or fireplace, constructed of a fire tile, grooved or cut partly through, for the purpose of withstanding the action of heat, in manner as herein described.

Second, a concave fire back, constructed of fire tile in sections, so formed as to point to one centre, to resist the expansion by heat, as herein described.

**71,298.**—FRANCIS L. HAGADORN, Baltimore, Md.—*Packing Ammunition in Chests and Boxes.*—November 26, 1867; antedated November 14, 1867.—Each piece of the ammunition is placed in its cell, with its lower end resting on the bolster spring. The fractional cells around the edge are occupied by the dovetailed wedge blocks.

*Claim.*—First, the system of flexible or adjustable partitions, together with the bolsters, as described, or their equivalents, arranged substantially in the manner and for the purposes herein set forth.

Second, in combination with the above, the compound or dovetailed wedge, substantially as described.

**71,299.**—WILLIAM HAINSWORTH, Philadelphia, Pa., assignor to himself and AMOS GARTSIDE, Chester, Pa.—*Loom.*—November 26, 1867.—An endless cord and series of pulleys are connected with the lower parts of a series of headles, which are operated by treadles, streamers, and rollers.

*Claim.*—First, in combination with a series of leaves of harness, the endless cords and pulleys, connected and operating as described for the above purpose.

Second, the regulating straps g g, in combination with the endless cords h h, as described for the above purpose.

**71,300.**—J. B. HARRIS, Germantown, Ky.—*Fire Proof Packing for Smoke and Hot Air Flues.*—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, a safety jacket, for surrounding or enclosing any metal flue for conducting smoke or heat containing an annular air space or series of air spaces, and an annular space or series of spaces packed with the fire proof material herein described, the same being constructed and arranged substantially as herein set forth.

Second, in a safety jacket or shield, to prevent the conduction or radiation of heat from pipes, stoves, furnaces or fires of any kind, to adjacent combustible substances, an intervening space packed with the fire proof material herein described, substantially as and for the purpose set forth.

**71,301.**—JAMES HARRIS, Santa Clara county, Cal.—*Gang Plow.*—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, the rocking bar E, to which the plows are attached, and by which they are turned over upon the frame.

Second, the elevating lever F, the adjustable seat I, the gauge screw J, the adjusting screws K K, the lever rest M, in combination with the rocking bar E, as described, and substantially as set forth.



**71,302.**—PASCAL HATCH, East Corinth, Vt.—*Saw-filing Machine.*—November 26, 1867.—The files are arranged in a gang in a sliding frame. The saws are clamped each side of the files in an inclined position. The file frame is actuated by connection to a rock shaft oscillated by a hand lever.

*Claim.*—The combination as well as the arrangement of the series of files *a a a*, their frame B, and machinery for imparting to such frame vertical movements, as described, with the frame A, the platform C, or its equivalent, and the saw carriage D.

Also, the combination and arrangement of the single file frame B, and its series of duplex files, or the equivalents thereof, with the frame A and its two saw carriages D D', applied to such frame A, substantially as described.

**71,303.**—WILLIAM H. HAWLEY, Utica, N. Y.—*Apparatus for Elevating by Horse-power.*—November 26, 1867.—The supplemental rope is carried around a pulley at the spot reached by the horse while drawing the other rope, so that the return movement of the horse may be made effective.

*Claim.*—Attaching to and combining with the ordinary draught rope and pulley or pulleys the supplemental rope E and pulley C, for the uses and purposes mentioned.

**71,304.**—HENRY F. HOLT, Fredonia, N. Y., assignor to himself, T. C. ABBOTT, and F. B. PARKER.—*Fastening Tops to Buggies.*—November 26, 1867.—The buggy top is secured to the seat by horizontal and vertical shanks projecting from the under side of the base rail, and entering corresponding sockets fastened to the sides of the buggy seat. A spring shank hook and socket at the seat back prevent upward, backward, or forward movement.

*Claim.*—The described arrangement of the horizontal and vertical shanks and sockets at the sides of the top and seat, in combination with the shank hook and socket and the spring key at the back of the seat, in the manner and for the purpose set forth.

**71,305.**—DAVID HOWARTH, Portland, Maine.—*Dinner Pail.*—November 26, 1867.—A receptacle for liquid is in the upper part of the bucket. The sides are formed of rings, which decrease in diameter downward, and are extensible or contractible on each other, in manner of a telescope. Hinged hooked wires are so connected as to prevent contraction when in use.

*Claim.*—The arrangement, in a dinner pail made and described, of the removable compartment *b* at the top, and the adjusting wires *f*, as and for the purposes set forth.

**71,306.**—GEORGE G. HUNT, Bridgeport, Conn.—*Base-Burning Stove.*—November 26, 1867.—The lower end of the supply cylinder descends into the fire chamber, and that portion of the cylinder is surrounded by an annular air space, at whose bottom are the air holes. This air space is intended to keep the lower end of the cylinder somewhat cool.

*Claim.*—First, the single-wall cylinder R, extending above the laterally-extended chamber C, and terminated within the fire chamber A<sup>2</sup> in a double-wall chamber, through which air is admitted to the fire, substantially as described.

Second, the single-wall cylinder R, terminating in a double-wall air-heating cylinder within the chamber C, in combination with the flues or pipes F leading into the chamber S, substantially as described.

Third, the combination of cylinder R, chambers C *g* and A<sup>2</sup>, descending flues F, and chambers S, when these parts are constructed and arranged so that they will operate as herein described.

**71,307.**—M. M. JOHNSTON, New York, N. Y.—*Alloy for Dentists' Use.*—November 26, 1867.—An amalgam is formed of mercury, 10 dwts.; sodium,  $\frac{1}{4}$  dwt. This amalgam is added to any alloy of metal for filling the teeth.

*Claim.*—The use of sodium or potassium, or an alloy of either or both, for purposes above mentioned, in the preparation of amalgam or cement for filling teeth.

**71,308.**—CHARLES W. JONES, Philadelphia, Pa., assignor to himself and J. S. JARDINE, same place.—

*Railway Switch.*—November 26, 1867.—The point rails are stationary, and the switch operated by flexion of the continuous rails.

*Claim.*—A safety switch, composed of vibrating rails A and B, fastened together by means of mobile cross ties D D, point rails P R and P' R', lever L, and spring S P, the whole combined, constructed, and operated in the manner and for the purpose above set forth and described.

**71,309.**—BART KANE, Cincinnati, Ohio.—*Water Prisms.*—November 26, 1867.—The side plates of the prism are cemented in grooves of the angular ends, and their side joints covered by metallic strips. The ends have spouts for introduction of water.

*Claim.*—First, a water prism, consisting of the flanged end plates A A' B C D *b c d*, glass plates E F G, metallic binding strips H I J, and one or more necks *a* for the insertion of stoppers K, the whole being arranged and operating substantially as herein described and for the purpose explained.

Second, the triangular-shaped and double-flanged plate A B C D *b c d*, when provided with the neck *a*, for the object stated.

**71,310.**—GEORGE H. KENDALL, Springfield, Mass.—*Machine for Pressing Reins.*—November 26, 1867.—The leather is folded by the plates and pressed and drawn forward by the rollers, giving it the form required for stitching.

*Claim.*—The combination of the rollers A and B, having the grooves F and projection G, with the folders C and D, the parts being arranged and constructed substantially as and for the purpose shown.

**71,311.**—JOSEPH W. KENDALL, Philadelphia, Pa.—*Foot for Tubs, Buckets, &c.*—November 26, 1867.—The foot has one or more wedge-formed projections which enter the chine, and side projections which take over the inside and outside and prevent the splitting of the stave.

*Claim.*—A metallic removable foot for tubs, buckets, casks, &c., arranged, constructed, and applied in the manner and for the purpose above set forth and described.

**71,312.**—HENRY J. LAMM, Richmond, Ind.—*Neck Yoke Fastening.*—November 26, 1867.—The neck yoke is pivoted on a swivel pin upon the up-turned bar at the end of the tongue.

*Claim.*—First, the combination of the socket A, shank C, and neck yoke B, when arranged to admit of the swivel action at each end of the shank, substantially as described and for the purpose specified.

Second, the open screw *b*, the end *d* having a head *e*, and the nut D for obtaining a swivel joint, when used in combination with the yoke B and shank C, substantially as set forth and for the purpose described.

Third, in combination with the socket A and shank C, the rubber band I, substantially as set forth and for the purpose described.

**71,313.**—P. P. LANE, Cincinnati, Ohio, assignor to LANE & BODLEY, same place.—*Self-Lubricating Journal Box.*—November 26, 1867.—The step has an oil reservoir, which communicates with the journal by a slot in the bottom of the journal box. At the ends of the box are annular grooves, by which an overplus of oil flows back to the chamber beneath the box.

*Claim.*—The self-lubricating journal box, having the oil chamber E below the bottom of the journal, and communicating with the journal at or near its mid-length by one or more apertures F, and at or near the ends thereof by duets G *g* G' *g'*, to which the overplus of oil is conveyed by the channels H H', substantially as set forth.

**71,314.**—CONRAD LING and G. S. CHANDLER, Detroit, Mich.—*Organ and Melodeon Coupling.*—November 19, 1867.—The octave keys are coupled by a single lever at the back, extending on to a shoulder on the sticker pin, and then to the front of the keys.

*Claim.*—The combination of the bar R, the spring C, the sounding board D, the guides E, the blocks F, the dog G hung upon the fulcrum H, the levers J, the supporters or guides L, the sticker pins M provided with shoulders O, the cleat P in conjunction with the



action frame A, the keys N<sup>1</sup> N<sup>2</sup>, and a proper stop, all arranged substantially as described, for the purpose designed.

**71,315.**—AARON LONGSTREET, Chicago, Ill.—*Door Knob*.—November 26, 1867.—The rectangular ends of the spindle enter similar cavities in the knobs. The knobs have shanks passing axially through the rosettes, and have grooves, which are engaged by yoke plates to prevent their withdrawal.

*Claim.*—First, the knobs A B, having shoulders S S fitted to operate against the outer ends of rosettes D E, and having shanks H I passing through said rosettes and secured by the metal G G put in the annular grooves *m m*, substantially as and for the purpose set forth.

Second, the knobs A B, having shanks H I, in combination with the loose spindle J and rosettes D E, arranged and attached to a door, as herein specified.

Third, the hub F, having a recess P, in combination with spindle J, knobs A B, and catch K, as herein described.

**71,316.**—SAMUEL McCONN, Stamford, Conn., assignor to himself and LAFAYETTE FARRINGTON, same place.—*Corkscrew*.—November 26, 1867.—The solid-shanked corkscrew has an axial perforation traversed by a rod ending in a point below the screw.

*Claim.*—First, a corkscrew, provided with a bore or venthole, substantially as and for the purposes herein specified.

Second, the combination of the rod C with a corkscrew, provided with a bore or vent hole *b*, substantially as and for the purposes herein specified.

**71,317.**—GEORGE W. McMINN, Cincinnati, Ohio, assignor to himself and ROBERT T. REILEY, same place.—*Car Spring*.—November 26, 1867.—The spring has two counterpart plates, each having an eye and an open end. A projection on one part enters a cavity of the other.

*Claim.*—Forming a spring of two plates of metal, each of which is folded to make two layers of the spring, and shaped at or near its mid-length and inner end respectively, to form the end eyes or loops A' B' and lips *d' d'* of the spring, as described and for the purposes explained.

**71,318.**—WILLIAM C. MOSER, East Nantmeal Township, Pa.—*Butter Worker*.—November 26, 1867.—The butter is placed in the trough and acted on by the radial paddles on a shaft which traverses longitudinal guide openings in the sides of the frame, and is made to rotate by spur wheels on the said shaft, which engage racks upon the frame.

*Claim.*—First, the machine as a whole, when combined, arranged, and operated substantially as shown and described.

Second, the shaft C, paddles D, vibrating arms E, squeezer roller F, uprights G, and the handle H, substantially as shown and described.

**71,319.**—WILLIAM MULLALLY, Boston, Mass.—*Top-spinning Sword*.—November 26, 1867.—The device is made in the form of a sword, and at the guard is a holder for the top while the string is drawn; from this part to a socket at the point is a groove, which the top may be made to traverse.

*Claim.*—A toy, constructed in manner substantially as above described.

**71,320.**—LOUIS F. NEAGLE, Philadelphia, Pa.—*Adjustable Mirror*.—November 26, 1867.—The additional mirror is adjustable in the end of an extension rod sliding in a socket at the top of the other glass.

*Claim.*—The mirrors A and C, adjusting rod D, vibrating rod *c*, head *b*, rod *d*, set screw *f*, pin *g*, head *h*, plate *k*, and the latch *m*, when combined and arranged as set forth.

**71,321.**—GEORGE J. PARHAM, Harrodsburg, Ind.—*Animal Trap*.—November 26, 1867.—A space at the end of the trap contains the bait, and is sufficiently enclosed to prevent its being reached from the rear; this forces the rat to pass over the trap door, which falls with its weight, and is reset by a weighted cord wound upon its journal shaft.

*Claim.*—The spring E, trigger C, grated cover D,

revolving trap-door B, spool G, pulley H, and cord M, all arranged in the manner and for the purpose specified.

**71,322.**—ANDREW PATTERSON, Birmingham, Pa.—*Mode of Tuning Bells, &c.*—November 26, 1867.—To raise the tone the bell is hardened by heating and immersion in oil. To lower the tone the bell is annealed in the usual way.

*Claim.*—The manner, substantially as hereinbefore described, of tuning bells, so as to secure from them a higher or lower tone.

**71,323.**—THOMAS PERCIVAL, Augusta, Me., assignor to himself, JOHN D. DEFREES, and ROLLIN DEFREES.—*Machine for Making Tags and Labels*.—November 26, 1867.—The blocks by which the labels are printed act the part of dies to separate them from the sheet.

*Claim.*—First, the use, in a machine for making tags and labels, of the punches *m m* and the dies *n n*, with movable bottoms, the same to be used alone or in connection with an inking apparatus for printing letters, numbers, or devices upon the tags or labels, all constructed and operating in the manner and for the purpose substantially as described.

Second, the use of the inking apparatus F, in connection with a machine for making tags and labels, operating in the manner and for the purpose substantially as described.

Third, the combination and arrangement of parts of a machine for making tags and labels, all substantially as described.

**71,324.**—JOSEPH A. PUTT, Marlboro, Ohio.—*Bridle*.—November 26, 1867.—The cheek piece has loops which extend through the side strap and are secured by a pin which passes through them and rests against the side strap.

*Claim.*—First, the peculiar arrangement and combination of the blind A, iron C, cheek piece B, and pin D, the whole being arranged in the manner and for the purpose herein specified.

Second, the holes *b b b* in the cheek piece B when used for the purpose of obtaining an interchangeable bridle, substantially in the manner and for the purpose specified.

Third, so constructing a bridle as that it may be changed from a blind to an open bridle, and *vice versa*, without changing the cheek piece, in the manner herein described and for the purpose herein specified.

**71,325.**—GEORGE QUICK and JOHN N. WALLIS, Fleming, N. Y.—*Car Brake*.—November 26, 1867.—The "cam slides" are connected all through the train, and serve on backing the engine to put on the brakes, by acting on the levers which enter notches in the slides. The cam slides are coupled by hooks which are raised, when uncoupling, by side projections on a turning key.

*Claim.*—First, the brake rod A, levers L and M, the stands H I J K, when constructed as and for the purpose specified.

Second, the cam slide C and latch V and key Z, when constructed in the manner and used for the purpose above set forth.

**71,326.**—JOHN J. RALYA, Allegheny City, Pa.—*Machine for Dressing Staves for Barrels*.—November 26, 1867.—The ram by which the stave is forced between the cutters has a rack on its lower side, which is thrown in connection with a pinion to cause the forward movement. The pinion is carried near the end of a shaft which is journaled in a swinging bar. The bar is raised to the rack by a treadle supported by a spring catch and tripped by an adjustable pin at the end of the stroke, when the ram is drawn back by a weighted cord. To one of the cutter journals is attached an arm, having on each side a spring. The arm is turned up at its free end, and passes through a slot in a lever pivoted to the cap plate, by which the cutters are adapted to crookedness in the staves.

*Claim.*—First, a swinging bar *r*, in a stave-dressing machine, carrying a pinion to operate in connection with a toothed rack attached to the ram, in combination with a support *x* to hold the pinion in gear, and tripper *s'* and pin *z* to throw it in and out of gear re-



spectively, or their mechanical equivalents, substantially as above set forth.

Second, adapting the direction of the action of the knives of a stave dresser to the crookedness of the staves by a lever *u*, attached to the head stock, in combination with a rigid arm *e'* attached to the journal which carries the knives, and with or without the springs *e''*, substantially as and for the purposes above set forth.

**71,327.**—SAMUEL C. RIDGAWAY, Baltimore, Md.—*Harvester Rake*.—November 26, 1867.—Improvement on the patent of Thomas Taylor, April 10, 1866. The rake is operated by a cam and a crank arm, which are actuated from a shaft turned by gearing from the ground-wheel shaft.

*Claim.*—The compound crank arm *I* and cam *G*, in combination with the rake *B*, when mounted above the platform, and arranged to operate substantially as and for the purpose set forth.

**71,328.**—JOHN JOSEPH RINK, Brooklyn, N. Y.—*Sifting Machine*.—November 26, 1867.—The barrel containing the flour is attached to the frame by the straps, and the flour is discharged into the hoppers. The openings at the lower ends of the hoppers are adjustable. The flour passes through the reciprocating round-barred grates and the sieve into the oscillating chute, from which it is carried to the receiving barrel.

*Claim.*—First, the arrangement of the elevator *e* with the strap work *h h'*, for the purpose specified.

Second, the combination and arrangement of the grates *o p* and the sifter *q*, for the purpose specified.

Third, the construction and arrangement of the levers *k k' k'' k'''*, regulating the shutting or opening of the funnels *i i*, for the purpose as stated and described.

**71,329.**—STILLMAN W. ROBINSON and DEVOLSON WOOD, Ann Arbor, Mich.—*Rock Drilling Machine*.—November 26, 1867.—The drill rod is attached to an extension of the cylinder, and the steam acts directly by moving the cylinder.

*Claim.*—In rock-drilling machines in which the drill has a rotary or feed movement, or both, the construction and arrangement of the cylinder so that its prolonged end may serve as a holder for the drill rod, or for driving the tool, and, at the same time, constitute one of the cylinder heads to receive the direct action of the motor, which thus produces the operation of drilling rock, &c., in the manner and for the purpose herein described.

Also, the click *L*, in combination with the ratchet *C*, (the latter forming the cylinder head,) in the manner and for the purposes herein described.

**71,330.**—A. J. ROCKAFELLOW, St. Louis, Mo.—*Machine for Tempering Saw Plates*.—November 26, 1867; antedated November 8, 1867.—The studded and perforated plates are adjustable in distance from each other, and the studs impinge upon the opposite sides of the plate, while the same is lowered into the bath in a horizontal position to insure all parts entering the oil at the same time.

*Claim.*—First, the construction and arrangement of the carriage *B* and its cap *B'*, substantially as herein described and set forth.

Second, the setting guides *C*, and in combination with these the set screws *c'*, for the purpose of adjusting the distances between the cap and carriage to any required thickness of plates.

Third, the cap *B'*, in combination with the rocking bar *d*, and also with the rope and weight *E* and *E'*, substantially as described and set forth.

Fourth, the carriage *B*, when combined with the links *a* and the cord or chain *b*, and raising shaft *b''*, or equivalent devices, whereby the carriage may be moved down into and up out of the bath tub in a diagonal direction, and still retain its horizontal position, substantially as described and set forth.

**71,331.**—ICHABOD R. ROGERS, Lynn, Mass., assignor to himself, JOHN WOOLDREDGE, and GEORGE E. BARTLETT, same place.—*Manufacture of Shoes*.—November 26, 1867.—The insole is dispensed with. The claims explain the invention.

*Claim.*—Connecting the "upper" leather at the toe and heel by means of a cord *a*, to which the edges of

the "upper" are secured by stitches *d*, as herein described.

Also, in combination with the above, the sliding guide or traveler *C*, with its eye *8*, for supporting the cord *a* in a central position, close to the bottom of the last, while the stitches *d* are being formed, substantially as set forth.

**71,332.**—MORRIS SELLERS, Keokuk, Iowa.—*Lubricator for Journals*.—November 26, 1867.—The screw cap is traversed by a screw plug, which passes axially through the cup and limits the outflow of oil.

*Claim.*—The conical plug *D*, in combination with the screw-closing cap *E*, substantially as described and for the purposes specified.

**71,333.**—W. F. SHAW, Boston, Mass.—*Lamp Shade*.—November 26, 1867.—The shade is made from a single piece of tin, struck up; and its supporting ring is corrugated to render it self-adjusting to the burner.

*Claim.*—First, the corrugated adjustable holder *B*, as and for the purposes specified.

Second, the improved dome-shade, when manufactured of the material and in the manner herein set forth and for the purposes specified.

**71,334.**—JOSEPH SHEAREB, Reading, Pa.—*Horse Hay Fork*.—November 26, 1867.—The upper arm of the bell-crank lever by which the hook is thrown out has a socket, whose forked end engages a projection on the main staff when loaded. The socket piece has a lever by which it is forced down to cause engagement of the load, and this lever is drawn sideways by a cord attached to its end for discharge of the load.

*Claim.*—The swivel *C*, in combination with the lever *A*, and operated by the arm *D*, substantially as described.

**71,335.**—HENRY W. SHIPLEY, Portland, Oregon.—*Water Wheel*.—November 26, 1867.—The wheel is divided horizontally into three series of buckets, which all receive the water at the periphery, and the upper, middle, and lower series discharge at the top, inside, and bottom, respectively. The water from the upper two passes down through the central space to join that from the lower.

*Claim.*—First, the combination of the parts *D E E'*, when constructed and arranged in relation to each other as shown and described.

Second, in combination with the foregoing the arms or buckets *B*, constructed and arranged as described.

Third, the gates *H*, hinged at the outer extremities of the guides *F*, and adapted to close inwardly, and provided with arms *i i*, in combination with the links *f* and ring *G*, when constructed and arranged in the manner and for the purpose specified.

Fourth, in combination with the inwardly-closing gates *H* and guides *F F*, the water passages between the latter, when constructed so as to diminish in height from their outer to their inner ends, substantially as and for the purpose specified.

**71,336.**—JAMES M. SMITH, Center Sandwich, N. H.—*Plate Lifter*.—November 26, 1867.—The circular part is bent into inward projections at certain places, and may be forced in to secure the plate by compression of the handle.

*Claim.*—Improved plate lifter as made of wire, and with three jaws *B C C'* and two handles *A A'* bent or formed from such wire, and arranged with respect to each, substantially as above described and as represented in the accompanying drawings.

**71,337.**—ISAAC SOULE, Albany, N. Y.—*Steam Engine Piston Valve*.—November 26, 1867.—The slide valves are similarly formed to a working piston, and operate in a cylindrical valve chest. The steam is admitted between the two valves for balance, and is exhausted between the ends of the chest and the pistons.

*Claim.*—The bushings *f f*, constructed substantially as and for the purpose specified.

Second, the steam passages arranged as described, with reference to the followers *e e* and bushings *f f*, for the purpose herein set forth.



**71,338.**—JAMES R. SPEER, Pittsburg, Pa.—*Cotton Bale Tie*.—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, a clasp for baling cotton, said clasp being provided with contracted apertures of the form herein described, and bent in the manner and for the purpose set forth.

Second, in combination with the above, bands made of semi-oval iron and in detached sections, as herein described and for the purpose set forth.

**71,339.**—CHARLES F. SYLVESTER and JOHN BROOKS, North Bridgewater, Mass.—*Reaming Tool*.—November 26, 1867.—The cutters are inserted in radial longitudinal slots of the head, and have wedge-shaped ends by which they are adjustably secured by conical nuts and screw sleeves.

*Claim.*—The expansive reamer as composed of the slotted tool carrier A, the series of cutters a, the stationary cone E, the adjustable cone B, the screws b and e, and the clamp-nuts C and G, and the shank F, arranged, combined, and constructed in manner and so as to operate substantially as explained and represented.

**71,340.**—ASAHEL TODD, Jr., Pultneyville, N. Y.—*Fence*.—November 26, 1867.—The pickets are woven between the wires which pass through iron brackets attached to the posts. Brace wires pass from the tops of the posts to the lower part of the panels at their mid-length.

*Claim.*—First, the bracket C in combination with the posts A and strands C' C', constructed and arranged substantially as specified.

Second, the brace wire G in combination with the posts A, brackets C, wires C' C', and pickets I, arranged in relation to these parts as specified.

**71,341.**—CHARLES R. TOMPKINS, Rochester, N. Y.—*Adjusting Cutter Heads to Planing Machines*.—November 26, 1867.—The socket of the cutter head is slotted to receive a pin upon its shaft so as to allow of adjustment upon the shaft, but no rotation. The head is adjusted by the sleeve, which screws into the socket.

*Claim.*—The application to rotary cutter heads of revolving sleeve c with its screw, the shouldered shaft h and the nut d in connection with the pin and slot g, or set screw e, for the purpose herein set forth and substantially as described.

**71,342.**—ANDREW J. VANDEGRIFT, Cincinnati, Ohio.—*Parallel Movement*.—November 26, 1867.—Each part of the parallel ruler has short levers pivoted at their center and placed near to the ends of the said parts. The opposite ends of these levers are connected by diagonal rods which are pivoted to the same and allow free but equal oscillation in the levers. Diagonal levers oscillating on a common center connect the ends of the short levers upon the different parts.

*Claim.*—First, the system of levers described, when arranged and operated substantially in the manner and for the purpose set forth.

Second, the tension rods described, or their equivalents, when arranged and operated in connection with the levers described, substantially in the manner and for the purpose set forth.

Third, the system of levers and tension rods combined with and attached to stocks or planes A and B, or their equivalents, by the means, in the manner, and for the purpose substantially as set forth and described.

**71,343.**—PETER VANDERBELT, Jr., Hughesville, Pa.—*Horse Hay Fork*.—November 26, 1867.—The upper ends of the barbed jaws are connected to toggle levers. The action of hoisting forces the barbed sides out to engage the hay. The load is relieved by draft upon a cord passing over a sheave and connected to the middle joint of the toggle levers, whose elevation draws in the barbs.

*Claim.*—The combination of slotted stem A, arms B, and elbow-pieces C, when constructed, arranged, and operating in the manner as shown and described and for the purpose set forth.

**71,344.**—JULIUS VON HOFE, Brooklyn, N. Y.—*Fishing Reel*.—November 26, 1867.—The bearings of

the nearer ends of the shafts are in bridge pieces attached to the fixed plate, so that the movement of the cap plate does not cause the journals to bind.

*Claim.*—The bridge j in combination with the disk b, shaft f, and cap C, substantially as and for the purpose described.

**71,345.**—CHARLES WATERS and HARVEY A. BROWN, Poughkeepsie, N. Y., assignors to HENRY G. GILES, Troy, N. Y.—*Stove Grate*.—November 26, 1867.—The radial projection from the grate bottom by which it is oscillated is supported on a jointed rest bar, which may be swung out sufficiently to allow the tilting of the said bottom for discharge of ashes.

*Claim.*—First, a front rest for a stove grate, having one portion arranged to open, in the manner and for the purposes set forth.

Second, the rest in parts Nos. 1, 2, and 3, or their equivalents, in combination with the swivel joint.

Third, the rest A, comprised of the parts Nos. 1, 2, and 3, in combination with the cross-bar E, when the axis or end bearings are back of or on one side of the center of the grate B.

**71,346.**—WILLIAM WEAVER, Phoenixville, Pa.—*Insect Trap*.—November 26, 1867.—The box is entered by tubes, whose mouths are at the lower part of the side, and which, sloping upward, end near the center. The trap is baited with food enticing to the ants, &c., and the insects are killed with hot water.

*Claim.*—The box A, when provided with tubes g g, arranged and constructed as set forth.

**71,347.**—CHARLES M. WHELDEN, Pittsfield, Mass.—*Base-Burning Stove*.—November 26, 1867.—The air-supply pipes open near the base of the stove and pass upward, inside the shell, to an annular air chamber surrounding the fuel cylinder, and extending downward to near the fire pot. The gas which accumulates in the fuel cylinder is conducted downward to the fire by pipes. Air may be conducted from the annular chamber to the space beneath the grate bottom.

*Claim.*—First, the air passages G, for conducting atmospheric air and discharging the same into the fire-chamber of a stove or furnace, at or near the surface of the fire, substantially as described.

Second, the air passages G, in combination with the reservoir D, substantially as set forth.

Third, the gas pipe I, (one or more,) or its equivalent, in combination with the reservoir D, substantially as set forth.

Fourth, discharging gases which collect in the reservoir D into the fire chamber, at or near the surface of the fire, by means of a pipe I, or its equivalent, substantially as set forth.

Fifth, conducting heated air from the air passage G and discharging it into the space or chamber below the grate, by means of a pipe J, or its equivalent, substantially as described.

**71,348.**—THOMAS WHITAKER, Bolton, England, and JOSEPH CONSTANTINE, Manchester, England.—*Hot-Air Furnace*.—November 26, 1867.—The "segments" are cast U or V-formed in transverse section, and have side ribs to form parts of contact with adjoining segments. The segments are arched over to meet those of the opposite side, and with them form short pipes leading to a smoke chamber above. They have side projections near the joints, and between them fire clay is rammed for luting. The whole is enclosed by walls, through which the ends of the smoke chamber project.

*Claim.*—First, constructing stoves of hollow segments, open towards the inner side, forming, with the lining slabs, flues presenting a large absorbing surface for the heat, and a large outer surface for heating the air or liquids, and possessing great elasticity, substantially as described.

Second, forming joints of stoves, by ramming clay or other substances between ribs at the inner edges of the segments and metal plates retained by outer ribs cast on the sides of the segments, substantially as described.

**71,349.**—ELI WHITNEY, New Haven, Conn.—*Breech-Loading Fire-Arm*.—November 26, 1867.—The trigger guard forms part of a lever, which is connected by a bar to the barrels, and by which they



are moved forward in the line of their axes to expose the breech for loading. The breech closer is upon the forward end of a solid lock frame, and receives the flanged end of the cartridge and the reduced end of the barrel. The cartridge shell is extracted by a spring attached to the stock, while sliding the barrels forward. The gun is fitted for use of the usual metallic cartridge, whose flanged end contains the fulminate.

*Claim.*—First, the construction of the slotted and grooved tenon *B'*, on a double-barrel, breech-loading shot-gun, substantially in the manner and for the purpose described.

Second, the manner, substantially as herein described and shown, of constructing, arranging, and combining the stock, the lock, the barrels, the levers, and the slotted grooved tenon *B'*, for the purpose set forth.

Third, pivoting the spring extractors *G*, which are constructed and arranged as described, at their rear ends, as and for the purpose set forth.

Fourth, the construction of the breech closers *b* and the hollow metallic lock frame, in the manner and for the purpose described, in combination with the reduced breech end of the sliding barrels, as described.

Fifth, the open slots *k k*, in combination with the open slots *j j*, substantially in the manner and for the purpose described.

Sixth, the slotted and grooved tenon *B'*, attached firmly between the two barrels *B B*, and connected to a forked frame  $A^3 A^3$ , and to two levers *C C'*, all substantially in the manner and for the purpose described.

**71,350.**—JOHN WIARD, New Britain, Conn., assignor to himself and THOMAS A. CONKLIN, same place.—*Key Guard for Door Locks.*—November 26, 1867.—A spring is secured to the case, so that when the key is turned to a certain position the spring will force it into a recess of the lock and prevent its further rotation.

*Claim.*—In the manufacture of locks, the employment of the spring *e*, depression *k*, in combination with the bolt *c*, tumbler *d*, substantially as and for the purpose described.

**71,351.**—JACOB WILD, Philadelphia, Pa., assignor to J. S. MASON & CO., same place.—*Machine for Making Metal Boxes.*—November 26, 1867.—The side and bottom blanks are placed in position on a circumferentially-ribbed disk. Another disk is forced in contact therewith, having a groove to receive the metal pressed out by the rib and a flanged top taking over the bottom. The disks are rotated together, and the pieces attached thereby.

*Claim.*—First, the forming disks *S* and *T*, arranged parallel to each other, caused to revolve in contrary directions and to move from and towards each other by the aid of the mechanism herein described, or any equivalent to the same, for the purpose specified.

Second, the plate *B*, on which the unformed box is deposited, in combination with the said forming disks and the appliances herein described, or their equivalents, for imparting an intermittent vertical reciprocating movement to the disks.

Third, the elastic arm *o*, in combination with the eam *d'* and the mechanism herein described, or its equivalent, for transmitting the motion of the said arm to the shaft *H* and its forming disk *T*.

**71,352.**—LEWIS WILSON, Ovid, N. Y., assignor to himself and ANDREW DUNLAP, same place.—*Bed Bottom.*—November 26, 1867.—The ends of the slats are attached to strips of canvas, which are connected by hooks to other pieces which are lapped around rollers at the head and foot. The rollers are connected by straps to springs beneath, by which undue turning is prevented.

*Claim.*—First, a spring bed bottom, the slats of which are suspended from rollers *B B* by means of strips of cloth, in combination with springs *g g* and the connecting straps *d d*, arranged substantially as described.

Second, securing the slats composing the bed bottom to strips of cloth *c c*, attached by hooks, or their equivalents, to strips *a a*, which are wound upon rollers, substantially as described.

**71,353.**—PETER YEUGST, Union Deposit, Pa.—*Manure Fork.*—November 26, 1867.—The fork is for loading manure as a horse manure fork, being drawn along and elevated by a rope to which a horse is attached.

*Claim.*—The improved manure fork, constructed and arranged with the handles *C C* adjustable by the blocks *d d* down and up on the standard *B*, and with the middle prong *G* shorter than the outer prongs *E E*, substantially as and for the purpose herein specified.

**71,354.**—HENRY YOUNG, Cincinnati, Ohio.—*Lamp.*—November 26, 1867.—The air ducts are on each side of the flame, and one of them is hinged to turn outward and expose the wick. The wings at each end are to cause horizontal extension of the flame.

*Claim.*—First, the provision in a lamp burner of an air duct *F*, so arranged as to admit a movement to or from the wick, substantially as stated.

Second, the arrangement of the air ducts or tubes *E F* and wings *I I*, all constructed and applied in the manner described and for the purpose set forth.

**71,355.**—CHARLES ADAMS, Philadelphia, Pa., assignor to himself and HENRY R. HAINS, same place.—*Reducing Manganese Ores.*—November 26, 1867; antedated November 15, 1867.—The manganese ore, mixed with tar and petroleum, is heated in a retort within a furnace. The retort has a safety valve, whose exit pipe leads into a water vessel communicating with the furnace.

*Claim.*—The reduction of the ores of manganese by carburated hydrogen gas under pressure, in the manner described.

**71,356.**—FRANCIS T. ALLYN, New York, N. Y., assignor to himself and JAMES A. RICH, same place.—*Lubricating Compound.*—November 26, 1867.—Composed of lime, 40; sal soda, 2; soapstone, 4; soft soap, 8; water, 680; and oil, 700 parts.

*Claim.*—A lubricating compound, consisting of the ingredients in about the proportions set forth.

**71,357.**—JOHN BARRON, Cincinnati, Ohio.—*Elastic Rocker for Chairs.*—November 26, 1867.—The lower face of the rocker has a groove for reception of a rubber pipe, which is secured by a rod passed through it and attached by nuts to the rocker ends.

*Claim.*—The employment of elastic tubes or pipes, in combination with chairs and other rockers, substantially as and for the purpose herein specified.

**71,358.**—GEORGE W. BISHOP, Stamford, Conn., assignor to D. S. TROWBRIDGE, same place.—*Ash Sifter.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—The combination of the sliding grate *C*, inclined grates *D D*, or their equivalents, lever *F*, ash box *B*, and cinder box *A*, and cover *E*, constructed and arranged substantially as herein specified.

**71,359.**—JOHN BRANIQUE, New York, N. Y.—*Musical Tablet.*—November 26, 1867.—The movable note pegs are so constructed that only the correct note can be set into an opening in the cleff allotted for it. The note pegs have angular bases which in the proper holes allow the insertion of the note in proper position, but when inserted into other holes the note is inclined.

*Claim.*—The musical tablet, provided with the movable note pegs, substantially as and for the purposes set forth.

**71,360.**—GEORGE B. BRAYTON, Providence, R. I., assignor to himself, SOLOMON W. YOUNG, JOHN W. HOARD, and LYMAN A. COOK.—*Dies for Threading Screws.*—November 26, 1867.—The screw blank is fed in a tangential position between the counterpart die rolls which form the thread from the point backward.

*Claim.*—First, a rotary die for cutting screws, in which the cutting surface is at varying distances from the axis or center of motion of the said die, so as to conform to the "taper" and varying dimensions of the screw blank to be cut, substantially as herein shown and set forth.

Second, a rotary eam die, in which the coneave



cutting surface is made tapering or of varying dimensions, so as to fit both the shank and taper end of the blank to be cut, as herein specified.

Third, the method herein described of cutting the screw-thread upon both the shank and taper end of a blank, by the employment of two or more rotary-cam dies, constructed and arranged as specified, so that, while their centers of motion are fixed and unchanged, their cutting surfaces shall approach or recede from each other, to conform to the varying dimension of the blank passing between them.

Fourth, in a rotary-cam die, as herein described, the combination with the tapering cutting surface of the cleaning space *k*, substantially in the manner and for the purposes herein shown and specified.

**71,361.**—H. F. BRYANT, Marathon, N. Y.—*Dental Drill*.—November 26, 1867.—The rose drill has rotary reciprocation by a sliding rack and pinion. The rod and pinion are confined in a case and actuated by a ring attached to the rod by a shank which traverses a longitudinal slot in the case.

*Claim.*—The construction and arrangement of the slotted tube *A*, having side box *e*, piston *a*, with the rack *c*, operating the pinion *d*, sliding ring *f*, and hollow handle *h* containing the spiral spring, as set forth for the purpose specified.

**71,362.**—GEORGE F. CARD and CHARLES A. STUDLEY, Bridgeport, Conn.—*File Cutter*.—November 26, 1867.—The sliding head to which the shank of the blank is clamped, is actuated by a feed screw and half nut; the latter being automatically raised to stop the feed motion at the proper time. The anvil has a hemispherical block whose convex side rests in a socket of its support. The anvil and feed movement are supported on a turn-table, by whose adjustment the inclination of the teeth is determined. The chisel is supported upon a flexible rod which is connected to the hammer handle by a spiral spring. The hammer is attached to a rock shaft which has an adjustable arm acted on by a cam on the main shaft.

*Claim.*—First, the combination of the ball and socket joint (*j* and *i*) with the universal motion apparatus, (*u* and *v*.) when they are constructed, combined, and fitted to feed and to adjust the blank, substantially as herein described and set forth.

Second, the combination of the hammer *N*, chisel *f*, and spring *P*, when they are constructed, connected, and fitted to produce the result, substantially as herein described and set forth.

Third, the combination of the worm *K* and wheel *G* and *r r* with the pinion *s*, screw *H*, and segmental nut *y*, when they are constructed, combined and fitted to feed the blank, substantially as herein described and set forth.

Fourth, the combination of the turn-table with the feeding and blank-holding apparatus herein described, when constructed and fitted to govern the cut, substantially as herein set forth.

Fifth, the combination of the turn-table and holding device with the anvil *j* and ball *p* and its appendages, when they are constructed, combined, and fitted for use, substantially as herein described and set forth.

**71,363.**—L. F. CERF, New York, N. Y.—*Caster for Furniture*.—November 26, 1867.—The lug upon the sleeve rests against the lower face of the cap piece, which is attached to the leg, and serves to decrease the strain on the pivot pin.

*Claim.*—The fixed supporting lug *H*, upon one side of the sleeve *B*, and between the caster arms *C C*, as herein described for the purpose specified.

**71,364.**—J. W. CHURCHILL, Pittston, Pa.—*Animal Trap*.—November 26, 1867.—The animal passes through a hole in the side of the box into a fixed ledge within the box, and from this ledge may jump down upon a hinged platform whose descent closes the entrance hole, and opens another, leading by a balanced passage way into the other box. The weight of the rat at the further end of the passage tilts it up, and opens a way into the receiving chamber. The trap is automatically reset.

*Claim.*—First, the pivoted passage *H*, arranged in relation with two boxes *A B*, the door *C*, and the two holes *d e* in box *A*, substantially in the manner as and for the purpose set forth.

Second, the hinged platform *E* counterpoised as shown, and provided with the rod *i*, in combination with the pendant rod *I* attached to the passage *H*, and the bent lever *D*, to which the door *C* is attached, all being arranged to operate in the manner substantially as and for the purpose specified.

Third, the platforms *b e*, in combination with the two holes *d e*, and the passage *H*, substantially as and for the purpose set forth.

**71,365.**—JOHN CORREJA, Brooklyn, N. Y.—*Sash-cord Fastener*.—November 26, 1867.—The knot of the balance cord is contained in a metallic socket piece let into the sash.

*Claim.*—The sash-cord fastener, formed of the socket *c* for enclosing the knot, combined with the tubular cord holder *e* upon one side, and adapted to being applied to the sash, in the manner specified.

**71,366.**—EZRA N. CURTICE, Spring Water, N. Y.—*Hay Raker and Loader*.—November 26, 1867.—The hay is gathered and compressed between two rotating toothed rollers, and forwarded up a spout to the top of a load.

*Claim.*—First, the spout or hopper *E* and rollers *D D'*, operated in manner and for the purposes substantially as above set forth and described.

Second, the curved slot *F*, spring *f*, and sliding bar *G*, in combination with the rollers *D D'*, in manner and for the purposes substantially as above set forth and described.

Third, the sliding bar *G*, metal scraper plate *I*, in combination with the spout or hopper *E*, in manner substantially as above set forth and described.

Fourth, the spout or hopper *E*, having the axle *a* of the carrying wheels *A* journaled in the ears *e*, in manner substantially as above set forth and described.

Fifth, the rods *K K* and *L L*, in combination with the bed pieces of the rack *I'*, or any equivalent method of attaching the elevator to the wagon, in manner and for the purposes substantially as herein set forth and described.

**71,367.**—ABBOT R. DAVIS, Cambridge, Mass.—*Covering for Plastered Walls*.—November 26, 1867.—Explained by the claims.

*Claim.*—The within-described covering for plastered walls, consisting of sheets of wood as a substitute for ordinary house paper or paper hangings, substantially as set forth.

Also, saturating the sheets of wood previous to applying them to plastered walls, substantially as and for the purpose set forth.

**71,368.**—E. T. DUKE, Plattsmonth, Neb.—*Stove Damper*.—November 26, 1867.—The angular axis passes through an elliptical disk, to which the two annular deflecting plates are linked. These deflecting plates fit the pipe on their periphery, and have an elliptical central cavity somewhat smaller than the central damper. The guards are attached to the annular plates, and form deflectors when the damper is in operation, but lie closely to the sides of the pipe when it is open.

*Claim.*—The triangular guards *E*, constructed as described, attached at *e e'* to the rings *B*, as herein set forth, for the purpose specified.

**71,369.**—JABEZ EDWARDS, Lowell, Mass.—*Belt Shifter for Roving Machines*.—November 26, 1867.—The shifter slides upon a rod, and is actuated by a stud upon it, which enters inclined slots on a plate sliding on another rod, and drawn forward by a weighted cord; this plate is attached to a ratchet bar, by which it is prevented from moving more than one cog at a time, so as to gradually lessen the speed of the bobbins as the roving is wound on. The speed is regulated by shifting the belt on the conical pulleys. When the shifter is moving too slowly or too fast the stud is adjusted in the inclined slot, to alter the relative position of the rack plate and shifter.

*Claim.*—First, the plate *m* and belt-guide plate *j*, with inclined slots or their equivalents, substantially as and for the purpose set forth.

Second, the rod *q* and stud slide *t*, with stud *u*, for the purpose substantially as herein described.

Third, the combination and arrangement of the plates *m* and *j*, with inclined slots *k* and *l*, or their equivalents, rod *q* and stud slide *t*, with stud *u*, when



operating substantially for the purpose described and set forth.

**71,370.**—EDWIN S. FISHER, Boston, Mass.—*Dividers*.—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—The dividers, constructed as described, consisting of the leg A, having the arc-shaped arm C and the small hinged leg D, when the leg A is adapted to form a punch to be struck by a hammer, as herein shown and described.

**71,371.**—CHARLES H. FISKE, Lowell, Mass.—*Bobbin*.—November 26, 1867.—The bobbin is formed, as stated in the claim, to prevent the slipping of the yarn.

*Claim.*—A filling bobbin whose sides, for a greater or less portion of its length, are formed to resemble a succession of inverted truncated cones, substantially as described for the purpose specified.

**71,372.**—C. T. FITCH, Harbor Creek, Pa.—*Post Driver*.—November 26, 1867.—Improvement on his patent May 7, 1867. The braces are hinged at the top and adjustably secured at the bottom, to allow an inclination in the slide posts and enable working on a side hill.

*Claim.*—The posts B hinged by the joints *a* to the runners A, when adjusted in any required position by means of the staples and pins *d* passing through the slotted lower end of the hinged brace C, as herein described, for the purpose specified.

**71,373.**—CHARLES FLESCHE, Rochester, N. Y.—*Permutation Lock*.—November 26, 1867.—Improvement on his patent February 19, 1867, and is intended to simplify the construction. The dog is held in elevated position above the wheels by a weight. The fly acts in connection with the cam hook to draw down the end of the lever, to unlock the jaws, when the wheels are so set that the arm can fall into the notches. The spindle is prevented from turning in the cam by a conical, screw-headed pin.

*Claim.*—First, the combination of the weight H with the fly *m* of the lever G, and the wheels C C C, operating in the manner and for the purpose substantially as herein set forth.

Second, the combination of the cam hook *n* and eccentric surface *o* with the fly *l* of lever G, operating substantially in the manner and for the purpose set forth.

Third, the combination and arrangement of the conical or tapering screw pin *u* with the flattened side of the spindle B, operating in the manner and for the purpose set forth.

Fourth, the employment of the intermatching teeth *e e'* in combination with the clamping plates *w w'* and screw *y*, arranged and operating as specified.

**71,374.**—CHARLES T. FORD, Salem, Mass.—*Toy Fortune Teller*.—November 26, 1867.—The wheel has sentences upon its periphery and numbers upon the inner side of its rim. It is turned by a crank, and checked by a brake in the hand of the figure. The right hand of the figure points to a sentence, which refers to a certain scroll having answers, which are numbered, and on again turning the wheel a pin on the post points to a number indicating the answer.

*Claim.*—First, placing the prophetic sentences upon the periphery or face of a revolving wheel, substantially as and for the purpose specified.

Second, employing spring mechanism to bear down the arms of the figure of a fortune-telling toy, substantially as shown and for the objects specified.

Third, the treadle T, or other equivalent device, for lifting the brake *m* from the wheel, substantially as and for the purpose shown and described.

Fourth, the scrolls or cards K, with questions and answers thereon, lettered and numbered, substantially as shown and described, in combination with the numbers on the wheel B, all as and for the purpose set forth.

Fifth, the holes L in the base A, in combination with the wheel B of a fortune-telling toy, substantially as and for the purpose shown and described.

Sixth, the rubber brake *m*, substantially as and for the purpose of stopping a toy wheel, all as set forth.

**71,375.**—DAVID FORREST, Eastport, Me., assignor to himself, P. M. KEANE, and D. N. CLARK,

same place.—*Gas Meter*.—November 26, 1867.—The gas wheel has four sectoral compartments, which connect through apertures on the tubular arbor alternately with the induction and eduction gas pipes. Each compartment has at its periphery an aperture covered by a flexible diaphragm depressed by a metallic spring, which, when elevated by the expansion of the diaphragm, catches in passing under a projection in the top of the case, and holds its own compartment in communication with the eduction pipe, and the compartment next following in communication with the induction pipe. The meter wheel has a spur wheel connecting with the register when the door is closed.

*Claim.*—First, the central tube B and the gas wheel A, constructed and arranged substantially as shown and described.

Second, the elastic disk *g* and the spring *h*, on the periphery of the gas wheel, and in combination therewith the catch J, substantially as and for the purposes set forth.

Third, revolving the gas wheel A, and registering or recording the amount of gas consumed, by the action of a spring operating suitable gearing for that purpose, substantially as herein shown and described.

**71,376.**—CHARLES FORSTER, Lebanon, Pa.—*Plow*.—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, forming recesses *c<sup>1</sup> c<sup>2</sup>* in the standard C or forward end of the mold board D to receive the flange *e<sup>1</sup>* and tongue *e<sup>2</sup>* formed upon the forward end of the land side E, substantially as herein shown and described and for the purpose set forth.

Second, forming a recess or groove *e<sup>3</sup>* in the outer side of the flange *e<sup>1</sup>* of the land-side E for the reception of the projection *f'* formed upon the inner side of the rear part of the cutter F, substantially as herein shown and described and for the purpose set forth.

**71,377.**—JOHN GAMGEE, Bayswater, England, and ARTHUR GAMGEE, Edinburgh, Scotland.—*Preserving Animal and Vegetable Substances*.—November 26, 1867.—The animal is made insensible by inhalation of carbonic oxide, and then bled and dressed in the usual manner. The flesh may be placed in a chamber containing carbonic oxide.

*Claim.*—First, the use of carbonic oxide in the process of preserving animals whose flesh is to be used as human food, whether by causing animals to inhale carbonic oxide gas as they die, or by placing the meat in chambers or vessels containing carbonic oxide alone, or in conjunction with other gases or vapors.

Second, the use of charcoal saturated with sulphurous acid or other antiseptics, in conjunction with carbonic oxide and other gases or vapors, for the preservation of animal substances.

**71,378.**—JAMES GONDOUN, New York, N. Y., assignor to himself and FELIX AUERLE, same place.—*Funnel*.—November 26, 1867.—The funnel has a valve held up by a latch. The latch is relieved by a float in the nozzle when the vessel is full, and allows the valve to drop and stop the outflow.

*Claim.*—The funnel *a* and valve *d*, in combination with a float *g*, latch *l*, and block *n*, substantially as and for the purposes set forth.

**71,379.**—JAMES M. GORDON and E. CHRISTIANSON, St. Joseph, Mo.—*Corn Planter*.—November 26, 1867.—The axle shaft of one of the ground wheels has a pulley sleeved thereon which is connected by a belt to the seed cylinder shaft. The pulley sleeve has a spur wheel which is engaged by a segmental rack at the end of a hand lever, by which the pulley is turned to bring the dropping device to the proper position at starting in the row. This lever also acts as a clutch lever, the action of clutching the pulley to the shaft serving to disengage the cogs of the lever and wheel. The corn is covered by spades at the extremities of revolving spring rods.

*Claim.*—First, the combination of the lever K, gear wheel J, sleeve H, and clutch and band pulley G, with the cross bar F and axle E, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the band M, pulley N,



shaft O, and wheels T, with each other and with the pulley G and seed boxes P, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the markers W with the shaft O and wheels T, substantially as herein shown and described and for the purpose set forth.

**71,380.**—HENRY GOSS, Union Mills, Pa.—*Cement Stove-pipe Thimble*.—November 26, 1867.—The thimble is composed of sands, 2; quick lime, 1; plaster of Paris, 2 parts. It is cast in a wooden frame having projections for attachment.

*Claim.*—A composition or cement stove-pipe thimble A, cast in a permanent mould or frame B, as a new article of manufacture, substantially as described.

**71,381.**—ARTHUR GRAY, Reiley, Ohio.—*Beehive*.—November 26, 1867.—The hive has an inner box enclosed in an outer one, leaving an air space between. The entry openings have a register slide, by which their size is adjusted.

*Claim.*—First, the case C, when placed within the case A, and resting upon the inclined bottom B, to form the chamber c surrounding said case C, through which chamber the air passes from the openings d in the bottom B to the openings e in the top a, affording constant ventilation, as herein shown and described.

Second, the adjustable slides F fitted in the guide g, constructed as described, having notches h upon their lower sides and the long notch i upon their upper sides, registering with the notches f in the hive, as herein described for the purpose specified.

**71,382.**—ROBERT B. GRIFFIN, Jr., Baltimore, Md.—*Button Fastener*.—November 26, 1857.—A wire frame or a plate has a coiled spring which passes through a small aperture in the garment, and affords a point of attachment for the shank of the button.

*Claim.*—The improved button-fastening device, formed of a coiled ring, arranged to pass through the cloth and the eye of the button, and combined with a retaining base, substantially in the manner and for the purpose herein set forth.

**71,383.**—WILLIAM H. GUIGNON and WILLIAM D. McDONALD, Warren, Pa.—*Kiln for Charring Wood, &c.*—November 26, 1867.—The kiln has an outer and inner shell and a detachable conical cover. The space between the shells is filled with non-conducting substance. At the apex of the kiln there is a valve whose stem has a disk which rests on the unburnt material, but which, settling as it burns, allows the descent and closing of the valve to prevent further combustion by confining the gases.

*Claim.*—First, a kiln for charring or carbonizing wood or coal, which is self-acting or automatic in its operation, substantially as described.

Second, a portable kiln for carbonizing wood or coal, which is formed of a double wall, or an outer and an inner shell, whereby the heat is confined in the kiln, substantially as shown and described.

**71,384.**—A. S. HARLAN, Bloomington, Ill.—*Rotary Steam Engine*.—November 26, 1867.—Two pistons upon one shaft are rotated within two cylinders. They have each a single wing. The abutment flap is folded into a recess for passage of the piston wing at the highest point of its rotation.

*Claim.*—First, the arrangement of the flaps E E so as to slide in grooves from one side of the induction ports to the other, in order to reverse the engine, substantially as described.

Second, the arrangement of the eduction ports S of the cylinder so as to release the steam after a semi-revolution of the piston, substantially as herein set forth.

**71,385.**—CHARLES H. HASKINS, St. Louis, Mo.—*Railroad Car Ventilator*.—November 26, 1867.—There are two compartments, the upper containing a windmill to convey air through a coil in the latter compartment, which contains water to cause deposit of dust before the air enters the car.

*Claim.*—First, the use of an eaves trough, or its equivalent, to hold the water when raised, allowing it to fall in sheets or drops in quantity as required, as and for the purposes set forth.

Second, the combination of the windmill, the worm or screw pipe, and the eaves trough, or their equivalent,

substantially as described for the purpose herein set forth.

**71,386.**—R. P. HENRY, Akron, Ohio.—*Roofing*.—November 26, 1867.—The joints of the boards are covered by metallic strips, whose down-curved edges enter grooves. The metal is covered by wooden battens connected to the boards by metallic tongues.

*Claim.*—First, the vertical strips or breakwaters D, fitted in grooves in the boards or planks B, and projecting above the upper surfaces of the same in connection with the battens E, substantially as and for the purpose set forth.

Second, the combination of the batons E, strips C, and breakwaters D, all arranged and applied to the boards or planks B, substantially as and for the purpose specified.

**71,387.**—JOHN J. HILL, Sodus Point, N. Y.—*Clamp for Planking Ships' Sides or Floors*.—November 26, 1867.—The clamping frame has toggle levers whose serrated segmental ends engage the ribs or joists, the screw acting on the plank.

*Claim.*—The serrated segmental swinging arms C c, when attached to bar A, and constructed to operate with screw B, in the manner substantially as described.

**71,388.**—GEORGE W. HUNT, Winchendon, Mass., assignor to WASHINGTON WHITNEY and I. J. DUNN.—*Stove Cover Lifter*.—November 26, 1867; antedated November 22, 1867.—The lifting claw is formed of the rebent ends of the wire, and a loop of the same forms the handle.

*Claim.*—As a new article of manufacture the lifter, when constructed substantially as described.

**71,389.**—CHARLES E. JACOT, Chan de Fonds, Switzerland.—*Winding Watches*.—November 26, 1867.—The pendant has a level gear which is connected with a train of gear to wind the watch. One of the wheels may be thrown out of connection by a lever whose end projects from the case.

*Claim.*—First, the wheel 10 connected with the wheel m and fitted so as to be moved into gear with the wheel x, in the manner and for the purposes set forth.

Second, the pin on the wheel f taking loosely into an opening in the flange or disk of the arbor of the minute hand, for the purposes and as set forth.

Third, the lever y and spring 12 applied as set forth, in combination with the stud 11 and swinging gear carrier plate k, substantially as and for the purposes set forth.

Fourth, the pawl 15 made in one piece of metal with its curved spring, in combination with the plate c against the edge of which said curved spring lies, as and for the purposes set forth.

**71,390.**—AUGUSTUS JENNINGS and ISAAC JENNINGS, Fairfield, Conn.—*Manufacture of Paper Vessels*.—November 26, 1867.—Explained by the claim.

*Claim.*—Forming and drying the paper to form the vessel or other article over hollow metallic formers of the desired shape, heated by steam or hot air introduced into their interior, substantially as herein shown and described.

**71,391.**—THOMAS A. KELLEY, Cleveland, Ohio, assignor to himself and WILLIAM G. WILSON, same place.—*Car Brake*.—November 26, 1867.—The brakes are operated by a spring. The brake is automatically reset as soon as taken off, and is held ready for application.

*Claim.*—First, the brake-setting mechanism, consisting of the cam b' with its V-shaped shoulder, the eccentric b with its V-shaped projection, both upon the axle of the car, the lever c, connecting bar h, slide h' with its notch, dog k' with its tooth, chain r', and spring A, in combination, substantially as described.

Second, the letting-off mechanism, consisting of the lever l with its bail m, dog k' with its tooth, the slide h' with its notch, the chain r', and the tempered spring A, substantially as described.

**71,392.**—JOHNSON KITCHEN, WILLIAM KITCHEN, and SAMUEL SAMUELS, Accrington, England.—*Railway Car Brake*.—November 26, 1867.—A longitu-



dinal screw shaft turns in bearings in the truck and operates a nut which is connected to and actuates the brake levers.

*Claim.*—The screw shaft G with its nut *e*, arranged and operating on a car or truck, in combination with the shaft H, its arm I, and connected to the nut *e*, and its arms *a a* connected to the brakes of the car, all as set forth.

**71,393.**—WILLIAM H. KUNTZ, Mount Rock, Pa.—*Hoisting Apparatus.*—November 26, 1867.—The slide has three eyes through which the hoisting rope is run, forming loops in which a sack may be placed.

*Claim.*—The slide, as constructed, combined and operated with the rope, as herein described and for the purpose set forth.

**71,394.**—EDWARD A. LEWIS, St. Charles, Wis.—*Velocimeter.*—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, the use of one or more eccentrics with intermittent rotation, regulated by connecting clock-work and other appropriate mechanical devices, (as gear wheels, springs, &c.,) for indicating, at repeated intervals of time, the rate of speed of running machinery in such intervals, while such machinery continues in motion.

Second, in combination with a velocimeter thus constructed, a clock, which may indicate the time of day in connection therewith, substantially as set forth.

**71,395.**—S. LEWIS, Tiffin, Ohio.—*Flour Bolt.*—November 26, 1867.—Different grades of flour are obtained without changing the bolting cloth, by application of a cloth to the exterior of the reel part, which is part coarse and part fine. The coarse portion has a very fine cloth arranged within it which is applied to a frame, adjustable in distance from the feed opening. The hammers are connected to longitudinal spring rods and are raised by an adjustable cam plate within the bolt, descending by power of the springs and striking metallic plates on the ribs of the bolt.

*Claim.*—First, a bolting cloth applied to a sliding frame, and arranged within a bolting reel which is covered with bolting cloth of different degrees of fineness, for producing different grades of flour at pleasure, substantially as described.

Second, the hammers *g*, secured to crank shafts, the cranked ends of which play in slotted arms *h'* upon longitudinally sliding spring rods *J*, in combination with an adjustable cam plate *S* upon the inside of the bolting chest, all constructed, arranged and operating substantially as described.

Third, the adjustable screw pulley *r* applied upon a stud *p*, and provided with cord *N*, for adjusting the cam plate *S*, substantially as described.

**71,396.**—JOHN H. LIGHTNER, Shirleysburg, Pa.—*Lamp Chimney Cleaner.*—November 26, 1867.—The side rods are attached to a fixed collar at the end and to a sliding collar near to the handle. The rods are expanded by moving the sliding collar to bring them in contact with the chimney.

*Claim.*—An implement for cleaning lamp chimneys, formed of spring bands *A* fixed at each end to a center stem *B*, in combination with the slide or collar *E*, substantially as and for the purpose described.

**71,397.**—CAROLINE M. LORING and EZEKIEL AVERELL, Charlestown, Mass.—*Nursery Chair.*—November 26, 1867.—A child's chair, dining-room chair and bedroom chair are combined with a toy holder.

*Claim.*—The combination of the stool *a* and chair *b*, having the several parts arranged substantially in the manner as described and shown.

**71,398.**—DAVID MANUEL and CALVIN F. MANUEL, Boston, Mass.—*Paper Bag.*—November 26, 1867.—The paper is cut and folded so as to form a conical bag with a flap to cover the contents.

*Claim.*—The triangular paper bag, constructed as described, by folding the sides *d e* one upon the other, of the parallelogram, cut with the apex *a*, as shown in Fig. 1, in the lines *i c* and *i b*, upon the triangular center described by the lines *a b a c* and *b c*, and by

folding the apex *a* over the said folded sides *e d*, as herein set forth, for the purpose specified.

**71,399.**—J. A. MARVIN, Red Wing, Minn.—*Heater Furnace.*—November 26, 1867.—The calorific current passes up through vertical flues to a drum which is traversed by an axial air pipe, in which is hung a water vessel to dampen the air. The air is heated within a shell surrounding the drum and flues.

*Claim.*—First, the evaporating vessel *E*, suspended in the central opening *F* of the drum *C* by means of a rod from the top of the drum, said rod bearing the register, as herein described, for the purpose specified.

Second, the arrangement of the annular drum *C*, supported within the radiator *D* by the pipes *g*, said radiator resting upon the stove *A*, driving flue *J*, pipe *H*, tube *m*, evaporating vessel *E*, register *O*, and hot-air pipes *n*, as herein shown and described.

**71,400.**—HIRAM S. MAXIM, New York, N. Y.—*Steam Gas Generator.*—November 26, 1867.—The steam passes through an axial pipe in the superheating chamber, and is carried through a valve to the regulating chamber containing the gas drum, which consists of two flexible diaphragms. From this chamber the steam passes through a longitudinal pipe in the hydrocarbon cylinder. The gaseous product passes into the drum which is connected to the steam valve; the latter is operated by the expansion or contraction of the said drum to limit the amount of steam and consequent heating of the liquid.

*Claim.*—First, an apparatus for generating gas by steam, from gasoline, naphtha, benzine, or other hydrocarbon oils, where the flow of the steam into the generator is governed and controlled by the pressure of the gas so generated.

Second, in combination with a steam gas-generating apparatus, the screen *J'*, substantially as and for the purposes described.

Third, in combination with a steam gas-generating apparatus, the superheating tube *C* and the interior supplementary tube *t*, substantially as and for the purposes herein shown and specified.

**71,401.**—CHARLES A. MEINHARD, Fort Wayne, Ind.—*Machine for Planing and Slotting.*—November 26, 1867.—The tool is pivoted in the slotted stem, so as to raise at the point in the return stroke. The stem has oscillatory adjustment in its frusto-conical socket, which is attached to a sliding plate operated by a screw. The slide frame of this plate is secured to a disk having a worm-gear periphery, and turned by a screw, so as to rotate upon a longitudinally-sliding frame.

*Claim.*—First, the combination of worm wheel *D* with the sliding adjustable plate *C* and up-and-down adjustable plate *G*, all made, arranged, and operating substantially as and for the purpose herein shown and described.

Second, the cutter *L*, when hinged in the slotted stem *K* and connected with the spring *m*, substantially as and for the purpose herein shown and described.

Third, the adjustable plates *J* or *J'*, when provided with shanks *i i*, respectively, for holding the tool, and when combined with the up-and-down adjustable plate *G* of a planing machine, substantially as set forth.

Fourth, the shafts *B* and *E*, worm *F*, plate *C*, disk *D*, and plate *G*, in combination with the plate *J*, (or *J'*,) stem *K*, and cutter *L*, all made and operating as and for the purpose herein shown and described.

**71,402.**—FELIX MILLER and HIPPOLITE PERNOT, New York, N. Y.—*Bung Extractor.*—November 26, 1867.—The claw lever has a pivoted strap engaging one side of the bung, while the claw acts on the other.

*Claim.*—The lever *A*, with a circular cavity *n* at its end, in combination with the strap or bow-shaped lever *B*, hinged to said lever *A*, the whole being constructed and operating in the manner and for the purpose substantially as set forth and described.

**71,403.**—EDWARD MYERS, Cincinnati, Ohio, assignor to LANE & BODLEY, same place.—*Planing Machine.*—November 26, 1867.—The mandrel and matcher-head have disk flanges turned to fit each other, and are attached together by an axial bolt, a key pin preventing rotation of one upon the other.



*Claim.*—The method, herein described, of attaching the matcher-head C to its mandrel by means of the screw rod D, passing centrally through the matcher-head and serewed into the collar B, one of whose ends is provided with the pin E fitting into the inner part of the said matcher-head, substantially as set forth.

**71,404.**—EARL C. NEWTON, Batavia, Ill.—*Carriage Shaft and Pole Coupling.*—November 26, 1867.—The thill iron has a notch to receive the clip bolt. The attachment is secured by the spring lever, whose ends enter the thill iron at different points, one of them having a spiral spring which forces the other into the lower end of the iron.

*Claim.*—First, the application of the lever B to the shaft iron D, through the hole C and F, as herein described.

Second, the application of the spring G to the slide iron or lever B, in the manner and for the purpose set forth.

**71,405.**—LUCIUS M. OLDEN, Pana, Ill.—*Beehive.*—November 26, 1867.—The top is rabbeted on the sides and is removable. The honey frames have a coating of thin sheet-metal on their outer edges.

*Claim.*—The baked earthenware or stoneware beehive, furnished with comb frames, and constructed substantially in the manner herein described and shown, as an improved article of manufacture.

**71,406.**—HENRY PARKER, Leesburg, Miss.—*Wagon.*—November 26, 1867.—The axles turn in boxes fixed to the bed pieces, and the wheels are also free to turn on the axles.

*Claim.*—The round revolving axle, with its attachments, all combined substantially as and for the purpose described.

**71,407.**—S. PAYNE, Louisville, Ky.—*Medical Compound.*—November 26, 1867.—For treatment of hog cholera. Composed of copperas, 8 oz.; potash, 2 oz.; salt, 2 oz.; sulphur, 2 oz.; and rosin, 2 oz.

*Claim.*—A medical compound, formed of the ingredients, substantially as and for the purpose described.

**71,408.**—GEORGE PEACOCK, Selma, Ala.—*Cast-Iron Car Wheel.*—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the curved plate c with the gradually-diminishing arms or spokes a a, substantially in the manner and for the purpose specified.

Second, the cast-iron car wheel above described, having the deep arms a a with openings between them around the hub, the curved plate c attached to the arms a a, as shown, and united to the inner edge of the rim or tread, and the supporting brackets a' a', all combined and arranged substantially as and for the purposes set forth.

**71,409.**—FRANCIS R. PEARSON, Germantown, Pa.—*Jack Center for Spinning Machines.*—November 26, 1867.—Levers and catches are combined with a single worm wheel for operating the "shibbing" and twist gearing of the spinning jack to prevent the breaking down of the ends.

*Claim.*—First, the combination of worm wheel p and dog z, as described, for the purpose set forth.

Second, the combination of worm wheel p, dog z, catch r, and oscillating stand m, as described, for the purpose set forth.

Third, the combination of the wheel p, catch s, lever O, and shifter bar t, or an equivalent arrangement of the same, as described, for the purpose set forth.

**71,410.**—JOHN R. PIERSON, Newark, N. J.—*Safe Door Bolt.*—November 26, 1867.—The bolts take behind the casing, and when the doors are shut the bolts on each door are moved, so as to engage the other door.

*Claim.*—Arranging the bolts in safes having double doors, so that they extend across the door, and can be locked at once into the opposite door and into the casing, two or more bolts being provided in each door and operated at once from the lock, substantially as and for the purpose herein shown and described.

**71,411.**—E. P. PORTER and G. W. HALLETT, Waterford, N. Y.—*Door Lock.*—November 26, 1867.—Improvement on their patent March 26, 1867. The "lift-ups" and catches are so arranged that if the key, in moving from one catch to another in unlocking, is not sufficiently withdrawn for its bit to pass, the catches previously released will again assume their holding position. The catches are combined with a series of slides, preventing them from being thrown back too far.

*Claim.*—The combination with the catches H of the levers or "lift-ups" P<sup>2</sup>, or their respective equivalents, when combined together, substantially as and for the purpose described.

Also, the slides A<sup>2</sup>, either one or more, substantially as and for the purpose specified.

**71,412.**—JOHN G. PUGSLEY, New York, N. Y.—*Elastic Rein Pull.*—November 26, 1867.—The fore end of the holder has a tongueless buckle frame which grasps the rein by friction, and a socket at its rear end through which the tubular rein runs freely. It is intended to give a good hold for the hand and preserve it against sudden jerks.

*Claim.*—An elastic rein pull adapted to being grasped by the hand and interposed between the hands and the reins, as and for the purposes set forth.

**71,413.**—LEWIS RIPLEY, North Chelmsford, Mass.—*Mechanism for Threading Shuttles.*—November 22, 1867.—The eye of the shuttle is placed upon the upper end of a suction tube connected to a piston. The shuttle tube is pressed down by the shuttle, and the exhaustion of air above the piston creates a suction in the tube and draws the thread through the eye.

*Claim.*—The combination of the cylinder A, piston B, tubular rod C, spiral spring D, and elastic mouth-piece e, constructed and arranged to operate as herein shown and described.

**71,414.**—A. C. ROHLER, New York, N. Y.—*Uterine Supporter.*—November 26, 1867.—The edge of the flexible conical disk encloses a metallic spring rod.

*Claim.*—A support for the os uteri, composed of the spring a and flexible membrane B, either with or without the central perforation, substantially as described for the purpose specified.

**71,415.**—ELIAS SANFORD, Meriden, Conn.—*Draft Attachment for Horses.*—November 22, 1867.—A semicircular bow is removably pivoted to the front of each pair of hames, and the forward part of each bow is pivoted to a bar acting the part of a doubletree and having a tongue pivoted to its center.

*Claim.*—First, the whiffletrees D, connected by a swivel joint to the curved bar A, when such whiffletrees are removably pivoted to the side of the hames e, as herein described for the purpose specified.

Second, in combination with the curved bar A, whiffletrees D, and hames e, the tongue B, when provided with the elastic block b, substantially as described for the purpose specified.

**71,416.**—JOHN T. SHANK, Martinsburg, Va., assignor to himself and JONATHAN STRINE, same place.—*Carpenters' Hatchet.*—November 26, 1867.—The socket is arched over with a plate which has a claw aperture.

*Claim.*—The construction of the arched nail-drawer C, with its slot E at the top of the hatchet B, as herein described and for the purposes set forth.

**71,417.**—GEORGE V. SHEFFIELD and BYRON WHITCOMB, Worcester, Mass.—*Railroad Rail.*—November 26, 1867.—The rail is secured by spikes through its base-piece between the two treads. The junctions of the rails are secured by fish-plates bolted between the rails.

*Claim.*—First, a reversible double rail for railways, made substantially as herein shown and set forth and for the purposes specified.

Second, the combination with the ends of two rails, as described, of the central splice or connecting piece E, substantially as and for the purposes set forth.

**71,418.**—W. E. SIMONDS, Hartford, Conn.—*Telegraph Insulators.*—November 26, 1867.—The glass



cap fits on a pin for connection to the post, and has a downwardly-projecting flange which hangs over the cup. Between the cup and cap is an insulator of rubber.

*Claim.*—The insulator B, having the inverted lip c, in combination with the cup d, the india-rubber hood g, and the supporting peg A, constructed and arranged substantially as described.

**71,419.**—SAMUEL S. STARNES, Macomb, Ill.—*Plow.*—November 26, 1867.—The standard passes vertically through the beam, and has a spiral spring beneath the beam and lever nut above it by which it is adjusted. The rear end of the beam is traversed by a rod connecting the stilts, and is laterally adjustable thereon by a pivoted lever whose position is secured by a rack.

*Claim.*—First, the combination of the standard b, spring d, rod l, and beam a, substantially as and for the purpose described.

Second, the combination of the lever h, rack bar k, and plow beam a, substantially as and for the purpose described.

**71,420.**—DAVID STEWART, Philadelphia, Pa.—*Cracker Making Machine.*—November 26, 1867.—The devices are enumerated in the claims. The operation cannot be briefly explained.

*Claim.*—First, the mechanical combination of fluted rollers C and C', rollers R R' R'' and R''', double set of endless leathern or other suitable material bands S B S B and S' B' S' B', running symmetrically in opposite directions, for the purpose and in the manner above set forth and described.

Second, the combination of fluted rollers C F with concave box C B, drawn from different centers, for the purpose and in the manner above set forth and described.

Third, the combination of rollers C and C', R R' R'' R''', endless band S B and S' B', roller C F, and concave box C B, all constructed and operated in the manner and for the purpose above set forth and described.

Fourth, sliding-top frame (wooden or otherwise) S T, and knife K, combined, constructed and operated in the manner and for the purpose above set forth and described.

Fifth, the combination of rod and claw-stoppers 33 with weight-rod 34, weight 35, constructed and operated in the manner and for the purpose above set forth and described.

Sixth, the rest or horizontal strip 41, with elbow 40, constructed and operated in the manner and for the purpose above set forth and described.

Seventh, spring-lever L V, eccentric-weight lug 42, combined with rest 41 and elbow 40, constructed and operated in the manner and for the purpose above set forth and described.

Eighth, the combination of frame M F, disk C A, and f f f, with slides 1 T and 1 T', constructed and operated in the manner and for the purpose above set forth and described.

Ninth, the application to elbow of rod r d r d of weights W W W, for the purpose above set forth and described.

Tenth, cushion-block B L, combined with the fork arrangement, and constructed and operating in the manner and for the purpose above set forth and described.

Eleventh, the combination of bar B A R with eccentric E X and E' X', and shaft P A, constructed and operated in the manner and for the purpose above set forth and described.

Twelfth, bar B' A' R', combined with its eccentric E'' X'' and E''' X''' and shaft P' A', constructed and operated in the manner and for the purpose above set forth and described.

Thirteenth, the combination of spring S P on upright V'', bar B A R, and its square-keyed end, constructed and operated in the manner and for the purpose above set forth and described.

Fourteenth, the sieve-box B X and flour-sieve tin cup T C, combined with spring and cam C S P, constructed and operated in the manner and for the purpose above set forth and described.

Fifteenth, a cracker-making machine, being the combination of all the different parts and pieces above separately claimed, constructed and operated in the

manner and for the purpose above set forth and described.

**71,421.**—HAMILTON STICKNEY, Reno, Pa.—*Cooking Stove.*—November 26, 1867.—The base-burning principle is applied to a cooking stove. The base is connected by vertical flues to the upper part containing the oven.

*Claim.*—First, the construction of the oven C', formed by the circular slides a around the furnace, as herein described, for the purpose specified.

Second, the stove A, constructed as described, and provided with the air openings e', forming a communication from the oven C', through said furnace, to the annular flues i and bread oven E, as herein described, for the purpose specified.

Third, the flues f f', and the air passages J i i, and the revolving shelves m m, in the elevated oven E, arranged relatively to the fuel-supply chamber B, and operating substantially as shown and described.

**71,422.**—WILLIAM STONE, Hollidaysburg, Pa.—*Axle Box for Cars.*—November 26, 1867.—Lugs are cast upon the box and lid to prevent the latter from coming out. A projecting rib above the opening in the box is covered by the lid top, to prevent entrance of dust.

*Claim.*—The sliding lid B, with the shoulder projection e on the under side, and the hooked head b, in combination with the lugs a a on the sides, and the projections c on the top of the box A, with its sloping side d, arranged and operating substantially as herein described.

**71,423.**—J. B. SUTHERLAND, Detroit, Mich.—*Refrigerator Car.*—November 26, 1867.—The air from the upper part of the inside of the car passes down through the ice chamber, and is discharged into the car near the bottom to reduce the temperature.

*Claim.*—The double-walled, double-roofed, double-floored car, having ice chests A at each extremity, closed by the hanging flaps B, substantially as above described, having spaces S and F arranged so as to produce a constant circulation of the air in the car, in manner substantially as and for the purposes above set forth and described.

**71,424.**—CHARLES SWETT, Vicksburg, Miss.—*Artificial Leg.*—November 26, 1867.—A rubber cushion is interposed between the leg and foot, and these parts are connected by an angular spring bar. The heel piece has a rubber block interposed between it and the foot.

*Claim.*—First, the flat vertical spring c combined with the horizontal rubber cushion m, the leg A, and foot B, arranged and operating substantially as and for the purposes herein described.

Second, in combination with the above, the elastic cushion n, substantially as described and for the purpose specified.

**71,425.**—JOHN BLAKE TARR, Chicago, Ill.—*Engine for the Use of Steam and Air Combined.*—November 26, 1867.—Air at a pressure is forced through pipes within the fire space, and is mingled with the steam when entering the steam chest, to superheat the latter.

*Claim.*—First, reheating or superheating steam, after it has left the generator, by means of highly-heated air introduced into the steam chest under considerable pressure, substantially as described.

Second, applying steam and air within the valve chests or cylinders of engines, by introducing air into said cylinders when the air is heated to a temperature equal to or greater than that of the steam, substantially as and for the purpose described.

Third, the steam pipe D and hot-air pipe D', communicating with the valve chest of an engine, and provided with suitable valves for alternately shutting off and letting on the steam and air, substantially as described.

**71,426.**—MARIA E. TOMPKINS, Brooklyn, N. Y.—*Liquid for Bleaching and Removing Stains.*—November 26, 1867.—Composed of chloride of lime,  $\frac{1}{4}$  lb.; sal soda, 1 lb.; soft water, 1 gall.

*Claim.*—The improved bleaching fluid, composed of the ingredients and in the proportions substantially as herein described.



**71,427.**—EBEN TOURJÉE, Providence, R. I.—*Key-board Attachment for Musical Instruments.*—November 26, 1867.—The return springs of the keys are attached to blocks which may be slid inward to relieve the tension upon the keys.

*Claim.*—The employment or use of springs, or their equivalents, applied to the key board of a musical instrument, and arranged in connection with the keys thereof, to operate in the manner substantially as and for the purpose specified.

**71,428.**—J. W. TRACY, St. Louis, Mo.—*Gas Cigar Lighter.*—November 26, 1867.—The figure is connected to the gas pipe by a flexible pipe, and to the gas cock lever by a flexible string. The gas is kept flowing to keep a small light in the pipe bowl, but when the figure is elevated the gas is fully turned on.

*Claim.*—The figure *a* attached by the flexible tube *c* to the gas pipe *b*, in combination with the elastic cord *f* operating on the weighted lever *e*, in the manner and for the purpose substantially as shown and described.

**71,459.**—JOHN TUNNICLIFF and PATRICK CAHILL, Northampton, Mass., assignors to A. P. CRITCHLOW, same place.—*Machine for Ornamenting Buttons.*—November 26, 1867.—The rotating spindle of the lathe, to which the button is chucked, has vibratory motion given to it by rectangular blocks upon it, which impinge upon an anti-friction roller in a bar, which may be moved longitudinally to bring the roller in contact with either block; the return movement is by a spring. The turning tool is secured to the tail screw.

*Claim.*—First, the rotary mandrel *G* fitted in movable bearings *J J'*, and provided with squares *K K'*, in combination with the adjustable roller *f* connected with a sliding bar *L* on the head *C*, all arranged to operate in connection with the cutter *F*, substantially in the manner as and for the purpose set forth.

Second, the lever *M*, provided with the adjustable roller arm *N*, in combination with the bevelled notch *i* in the sliding bar *L* and the mandrel *G*, fitted in movable bearings *J J'*, substantially as and for the purpose specified.

**71,430.**—AARON C. VAUGHN, Philadelphia, Pa.—*Burner for Locomotive Head-lights.*—November 26, 1867.—The wick is contained in an annular oil space, and is raised by a sleeve whose pins project through vertical slots in a tube and engage a screw thread on a tube within. The chimney is supported within an annular cavity made by the upturned lower edge of a cone which rests on a perforated cylindrical plate. A screw rod, adjustable at its lower end, passes axially up through the burner, and has a disk at top which is a little higher than the upper edge of the cone.

*Claim.*—First, the perforated casing *m*, shield *M*, and intervening space between the two.

Second, the openings *t* in the shield *M*, for the purpose specified.

**71,431.**—AARON C. VAUGHN, Philadelphia, Pa.—*Head Light for Locomotives.*—November 26, 1867.—The lamp burner passes through a hole in the reflector near to its rear end. The reflector is double convex, the convexity being greater in front.

*Claim.*—First, the combination of the burner of a locomotive head light, a parabolic reflector, and a lens situated within or adjacent to the front edge of the reflector, substantially as and for the purpose described.

Second, the reflecting flaring ring *J* arranged in front of and concentric with the lens, as set forth.

**71,432.**—SYLVANUS WARREN and WILLIAM M. BLUME, New York, N. Y., assignors to themselves and A. V. BRIESEN.—*Elevated Railway.*—November 26, 1867.—The rails are supported upon inward projections at the spring of an arch which is attached by one end to a single post. A truck runs on this track, and the car is suspended from the truck, and is drawn by horses. The truck wheels have brakes which are operated from the car.

*Claim.*—In combination with a railway as above described, having the rails at the extremities of the arches, and the central guiding rod, the car truck *I*,

the central guide wheel, and the rods for supporting the car, as herein shown and described.

**71,433.**—JOSEPH WATSON, Buffalo, N. Y., assignor to himself and SOLOMON DRULLARD, Jr., same place.—*Constructing Furnace Doors.*—November 26, 1867.—The door and arch of the puddling furnace are each made of a single piece of brick and an iron frame.

*Claim.*—First, constructing furnace doors of a single brick *A*, in combination with an iron frame *B*, substantially in the manner and for the purpose set forth.

Second, the manner of constructing the frame *B*, with the wrought iron cross-bars *g g*, and lugs *h h*, for sustaining the brick and securing them in the frame, substantially as specified.

Third, constructing the door arch of a single crown piece *C*, formed with an inclined back *l* and recess in front, for and in combination with the iron plate *D*, substantially as and for the purpose set forth.

**71,434.**—NAPOLEON BONAPARTE WHITE, Cecil county, Md., assignor to himself and FREDERICK B. HOFFMAN, Baltimore, Md.—*Machine for Scaling Fish.*—November 26, 1867.—The fish are placed within the rotating cylinder and its segmental door closed. The cylinder is then rotated in the box containing water.

*Claim.*—A hollow cylinder provided with blades or points, or their equivalents, projecting inwardly from its circumference or sides, when made to revolve and otherwise adapted to the purpose of removing the scales from fish, substantially as herein set forth.

**71,435.**—H. B. WILCOX, Troy Mills, Pa.—*Fruit Box.*—November 26, 1867.—The sides of a hexagonal box have vertical incisions which are connected by a slot and the resulting flaps turned in, to secure the bottom, above and below.

*Claim.*—Securing the bottom of a fruit box to its sides by means of flaps *a* and *b*, which are formed respectively above and below the bottom, by means of incisions into the sides of the box, substantially as and for the purpose herein shown and described.

**71,436.**—NORIS ADKINS, Danbury, Conn.—*Stairs.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—The combination of the step *a*, hinge *b*, and spring *c*, forming an elastic hinge-spring step, constructed substantially as described and for the purpose set forth.

**71,437.**—ONOFRIO ABBRUZZO, St. Margherita, Italy.—*Hydraulic Clock.*—November 26, 1867.—The water has regular discharge from the vessel through a siphon, and a float within the vessel is connected to the clock gearing.

*Claim.*—Producing the regular motion of the hands of a clock by means of the regular and continuous rise and fall of water in a single vessel, provided with a single intermittent discharging siphon, and having a continuous influx of water, which influx is in relation to the discharge in the ratio of one to two, substantially as described.

**71,438.**—ANDREW ALLEN, New Haven, Conn.—*Hinging Clock Fronts.*—November 26, 1867.—The edge of the door has a projection covering the joint between it and the case all around.

*Claim.*—Hinging clock fronts to the case, substantially in the manner and for the purpose herein set forth.

**71,439.**—BARNABAS B. ALFRED, Lagrange, Ga.—*Cotton and Hay Press.*—November 26, 1867.—The follower is attached to the smaller screw which works axially in the socket thread of the larger screw. The latter passes through the nut in the sliding frame and is stepped in a metallic block.

*Claim.*—The combination of the follow block *D* and press box *B* with a compound screw *c c'*, resting on a pivot *i*, and operating in such a manner that the part *c* screws up and down in the part *c'*, and the latter screws the press box *B* up and down, at the same time causing the follow block and press box to move in opposite directions, with the united velocity of both the outer and inner threads of the part *c'*, in the manner and for the purposes specified.



**71,440.**—HENRY D. BARNES, Fair Haven, Conn.—*Floor Clamp*.—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—The arrangement of the serrated plate *a* within the arm *C*, combined with a corresponding serrated surface of the beam *A* and the set screw *H*, constructed and arranged so as to secure the arm *C* upon the beam *A*, substantially in the manner herein set forth.

**71,441.**—EDWARD BARRETT, New York, N. Y., assignor to himself and JOHN F. BURNS, same place.—*Lens for Lanterns*.—November 26, 1867.—The outer side of the lens is convex, and its inner side has a backwardly flaring central cavity; an axial section of the lens showing an irregular, double oblate figure. When used as a reflector an opaque plate is fitted to the recessed side of the lens.

*Claim.*—First, the lens constructed with the cavity *A*\*, substantially of the form set forth for the purpose specified.

Second, the combination of the opaque cover or back with the lens, constructed as described, whereby the lens may be used as a reflector, substantially as herein set forth.

Third, the combination with the within described lens of the reflector *B* of flaring form, substantially as and for the purpose specified.

**71,442.**—ALBERT B. BEAN, New Haven, Conn., assignor to SAMUEL C. BRADLEY and LOUIS W. UPHAM, same place.—*Knife Sharpener*.—November 26, 1867.—The slots in the holder for reception of the cutters stand angularly in relation to each other, to present the edges of the rectangular cutters in proper position.

*Claim.*—The combination of the blocks *E* and *D*, of the form described, with their holder *C*, when secured therein so as to be adjustable to present new edges, substantially as and for the purpose specified.

**71,443.**—E. O. BENNETT, Mount Pleasant, Iowa.—*Ink Stand*.—November 26, 1867.—Beside the mouth is a socket to hold the cork when it is removed.

*Claim.*—The tube *B*, made in the manner and used for the purpose herein described.

**71,444.**—LEWIS F. BETTS, New York, N. Y.—*Lantern*.—November 26, 1867.—The guard wires are connected to the dome by a frusto-conical, corrugated reflector, which extends lower than the top of the glass globe.

*Claim.*—First, connecting the dome of the lantern with the guards by the intermediate extension piece *c*, substantially as recited.

Second, having a conical reflector extending down over the upper portion of the globe, substantially as set forth.

**71,445.**—JOHN BLACKWOOD, Scranton, Pa.—*Washing Machine*.—November 26, 1867.—The carriage has corrugated rollers depressed by springs upon the ribbed, perforated spring bottom. The anti-friction rollers at the top of the carriage run beneath a spring board secured to the lid. The carriage is reciprocated by a hand lever.

*Claim.*—First, the corrugated perforated board *G* resting upon the springs *e e* in the bottom of the box *A*, and used in combination with the carriage *D*, in the manner and for the purposes specified.

Second, the carriage *D* with rollers *E E*, adjustable by means of the journal bearings having pins *x x*, and coil springs, when constructed and operating in the manner and for the purposes set forth.

Third, the box *A* having hinged lid *B* when said lid is provided with the ways *C C*, connected by the pins *a a* with coil springs, and used in combination with the carriage *D*, provided with its rollers *b b*, in the manner and for the purposes described.

**71,446.**—N. A. BOYNTON, New York, N. Y.—*Combined Range and Heater*.—November 26, 1867.—The open bottomed air chamber at the rear of the fire chamber and between the ovens has flattened pipes extending upward into another air chamber, through which the caloric current passes in an upwardly converging series of flue pipes.

*Claim.*—First, the deflector *M* in the air box *C*,

in combination with the air flues *N*, substantially as shown.

Second, in combination, the air pipes *N*, envelopes *E* and *I*, and smoke flues *J*, substantially as shown.

**71,447.**—OWEN B. BRIGHAM, Cambridge, Mass., assignor to YOUNG, HAINES, & DYER, Boston, Mass.—*Snap for Glass Ware Makers*.—November 26, 1867.—Improvement on patent No. 17,966. The central disk is movable and connected to the spring rod by which it is drawn down upon the base of the goblet, which enters the cylindrical recess in the bed plate.

*Claim.*—In combination with the fixed plates *a* and *f*, the clamp plate *k* so constructed and arranged that the base of the goblet is clamped down against the bed plate, substantially as described.

Also, in combination with the plate *f* the neck *r* for directly supporting the goblet bowl, substantially as set forth.

**71,448.**—WILLIAM BRUCKNER, Central City, Colorado.—*Furnace for Roasting Ores*.—November 26, 1867.—The tubular journals of the cylinder are axial with the same, and permit the caloric current from the furnace to traverse the cylinder to act upon the ore, which is rolled from end to end, owing to the diagonal form of the cavity.

*Claim.*—First, making or arranging the interior of the box or cylinder at an angle with or to the axis of revolution, substantially as described, so that as the cylinder or box is turned the contents will, by their own gravity, roll or slide alternately from one end towards the other at each revolution of the cylinder.

Second, making the journals at the ends of the cylinder diagonally opposite to each of the inclines or interior working surfaces of the cylinder.

Third, in combination with a box or cylinder having its journals arranged diagonally to its interior inclines or working surfaces, as described, making openings in the ends or hollow journals for the blaze and heat to enter the cylinder to roast the ores, or for supplying and discharging the ores to be roasted.

**71,449.**—HENRY E. BURTON, Boston, Mass., assignor to himself, SAMUEL N. UFFORD, and HEZEKIAH G. UFFORD.—*Lamp*.—November 26, 1867.—The lower deck is perforated to admit air between it and the upper deck, and the latter has perforations to admit air between it and the chimney. The cone is supported on bars and the chimney on springs, both of which are attached to the lower part of the upper deck.

*Claim.*—First, the combination of two or more decks *A B*, the lower one *B* being perforated so as to admit sufficient air to produce the required combustion, the upper deck *A* ogee-shape, perforated at the base with two or more lines of holes, acting as a cooler to the chimney and cone, inclining toward the wick tube *d*, and extending to within one-quarter of an inch of the top of same.

Second, the combination with two or more decks, constructed and arranged as described, of cone *c* and supports *e*.

Third, the cones *A B* and *C*, wick tube *d*, and rods *f f*, when combined and arranged as described.

**71,450.**—JOHN BUTTER, Buffalo, N. Y.—*Pitman*.—November 26, 1867.—The upper part of the socket box of the ball-and-socket joint is removably screwed into the other part to allow the introduction and removal of the ball. The ball is divided equatorially, one hemisphere screwing on to the end of the rod to allow adjustment to compensate for wear. The hemispheres have elastic packing between them.

*Claim.*—First, constructing the socket in two parts *F* and *G*, the lower one of which is fastened to the cutter bar, for the purpose and substantially as described.

Second, constructing the spherical end or ball of the connecting rod of two independent hemispheres *B* and *D*, with interposed packing *E*, for the purpose and substantially as set forth.

Third, providing the socket with an opening or slot *I*, for the purpose as herein described.

Fourth, the spring stop *K*, for the purpose and substantially as set forth.

**71,451.**—S. G. CABELL, Quincy, Ill.—*Preventing Incrustation of Steam Boilers*.—November 26, 1867.



—The cores of the spool magnet pass through stuffing boxes into the steam space of the boiler, and end in horizontal longitudinal bars, having radiating discharging points at each end. The magnets may be connected to the boiler by screws, which pass through the stuffing boxes and insulating packing and impinge against the core. In place of the screws, a wire may be used connecting the core and boiler shell.

*Claim.*—First, the combination with a steam boiler of an electro-magnet, applied externally, and having its core extending within the boiler and insulated therefrom, substantially as described.

Second, in combination with an electro-magnet constructed and applied to a boiler, as described, the use of the screws *n* or wires *u* for making or breaking connection with the boiler shell at will, as set forth.

Third, in combination with an electro-magnet applied externally, the use of a permanent magnet applied internally to the boiler, as herein described.

**71,452.**—GEORGE R. CADY and WM. H. COOPER, New Haven, Conn.—*Concealed Hinge*.—November 26, 1867.—The plate which is attached to the jamb has ears entering a recess in the latter. The plate which is attached to the door has a bent arm working in the recess, and connected by the pintle to the ears of the other plate.

*Claim.*—Securing the arm *E* to the plate *B* by passing the end *d* through, and so as to bear against the shoulder *a*, and so that the projection *e* will rest upon the inclined seat *f*, and there secured by means of the screw *h*, or its equivalent, substantially as herein set forth.

**71,453.**—WILLIAM CARLTON, Adrian, Mich., assignor to himself, DANIEL A. LOOMIS, and ADAM WAGENER, same place.—*Horse Hay Fork*.—November 26, 1867.—When in operation, the tines and shank form a continued curve. The tines are hinged to the shank, an upward projection engaging a roller which is journaled in side pieces, and tripped by a lever to which an operating cord is attached.

*Claim.*—First, the roller *E*, applied to the retaining face of the catch *D*, and adapted to operate substantially as described for the purpose specified.

Second, the combination of the head *A'*, having a beveled end *a*, latch *D D'*, roller *E*, and spring *b*<sup>4</sup>, arranged and operating substantially as described and for the purpose set forth.

**71,454.**—P. CAVALIER, Plainview, Minn.—*Adjustable Scaffold*.—November 26, 1867.—The platform is balanced by ropes passing over pulleys secured to the upper cross-pieces of the trestle frame, the said ropes having a weight attached to one end. The platform is sustained in any fixed position by bars which are passed through holes in the uprights of the trestle.

*Claim.*—The arrangement of the scaffold frame, constructed as specified, with the platform *D*, block and tackle *F F*, pulleys *J J* and *K*, and pins *E E*, substantially as and for the purpose herein set forth.

**71,455.**—WM. H. CHRISTY, Albany, N. Y., assignor to himself and WM. H. BURTON.—*Cutter-head for Planing Machines*.—November 26, 1867.—The cutter is formed of a series of plates having diametric adjustment on the mandrel by means of slots through which the mandrel passes.

*Claim.*—A cutter for forming mouldings, when formed of a series of plates *B*, each having cutting teeth *a a*, and an elongated slot in which is the mandrel, and upon it the plate can be adjusted, so as to cut any desired shape of moulding, substantially as described.

**71,456.**—N. B. COOPER, Liberty, Ind.—*Pencil Holder*.—November 26, 1867.—The metallic base piece is fastened by a brooch pin to the coat, and the rubber band affords a loop for holding the pencil.

*Claim.*—The construction of the pin *A*, as set forth, and used in combination with the rubber band *B*, in the manner and for the purposes specified.

**71,457.**—N. B. COOPER, Liberty, Ind.—*Clothes Pin*.—November 26, 1867.—Explained by the claim.

*Claim.*—Forming one piece of wire into a clothes pin in such a manner as to leave a circular opening *a* at the top, crossing the ends of the wire below the circle to form the ellipse *b*, and again below this ellipse

to leave a smaller elliptical space *C*, whereby the clothes or line may be held by the spring of the wire, as specified.

**71,458.**—JOSEPH CLARK and WM. H. CLARK, Philadelphia, Pa.—*Electrical Car Starter*.—November 26, 1867.—The electric battery is connected with the clock movements by circuit wheels arranged in connection with the minute and hour shafts, and other intermediate devices, for closing and breaking the current to give alarm for starting cars. &c.

*Claim.*—First, the combination of the circuit wheels *C*, having different numbers of teeth, with the minute and hour shafts, for giving alarms at different portions of time, arranged and operating substantially upon the principle and in the manner hereinbefore described.

Second, the movable sliding changer *E*, having a platinum point *c*, in combination with the racks *F* and *F'*, for changing the alarm to different portions of time, substantially as specified and shown.

Third, the combination of the hand *H* with the circuit wheels *C* by means of the tube *G*, substantially as described and for the purpose set forth.

Fourth, the combination of the tube *G* and nut *I* with the circuit wheels *C* and minute shaft *C'*, for setting the wheels to the starting point, substantially as described.

**71,459.**—JAMES M. CLARK, Lancaster, Pa.—*Pneumatic Breast Developer*.—November 26, 1867.—The mold is intended to rest upon the chest while the air is exhausted from its apex. The object is the extraction of milk and the development of the nipple.

*Claim.*—First, the combination of the mold *A*, conformed to the shape of the female breast, and adapted to completely inclose the same, while pressing only on the sternum, the nipple recess *G*, and a suitable exhausting device, for the purposes set forth.

Second, in combination with the above, the supplemental cup *C*, for the purpose set forth.

**71,460.**—THOMAS CROSSLEY, Bridgeport, Conn.—*Cane and Lamp Combined*.—November 26, 1867.—Explained by the claim.

*Claim.*—A cane, staff, crutch, umbrella handle, or other analogous portable article, constructed in two parts *A* and *A'*, and inclosing the oil receptacle *B* and wick tube *C* in one part, and the cap *D* and compressing spring, bearing against the latter, in the other part, said parts being arranged substantially as set forth.

**71,461.**—ARCHIBALD H. CROZIER, Oswego, N. Y.—*Water Wheel*.—November 26, 1867.—The opening in the bottom of the curb inclosing the wheel, and through which the water escapes, is scroll-shaped, in a direction the reverse of the water induction. The inner edge of the bottom around the opening is curved upward a part of the distance to prevent the water escaping too soon, the remaining portion being downturned to facilitate its escape at that point. Valves in the disk open downward to admit air to facilitate the escape of the water.

*Claim.*—The bottom of the curb, having its inner edge around the scroll-shaped opening therein curved upward for a portion of the circumference, and curved downward for the remaining portion, substantially as described, and for the purposes set forth.

Also, the openings in the top of the wheel, with valves opening downward to prevent the water from flowing up, but admitting the air freely downward to facilitate the escape of the water from the buckets.

**71,462.**—B. A. DAVIS, Petersburg, Va.—*Spur*.—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—Putting two buttons *a a* on both sides of the bow or frame *A*, and attaching the strap *E* to both, and the securing strap *F* to the rear button, so as to form the fulcrum of a lever, substantially as and for the purposes herein set forth.

**71,463.**—EDWARD DAVIES and R. H. TAUNTON, Birmingham, England.—*Tool for Drilling Metals*.—November 26, 1867.—The ratchet head of the brace is attachable to a lever to form a swing brace, or a rotary brace frame.

*Claim.*—The construction and arrangement of a



combination drill-brace in the manner and for the purposes hereinbefore described, and represented in the accompanying drawing.

**71,464.**—Cancelled.

**71,465.**—J. B. DRISCOLL, New York, N. Y.—*Stove and Furnace.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—A close stove or furnace for burning bituminous coal, containing the following combination: A fire pot *b* to contain the bituminous coal, surmounted by a chamber *a*, through which the products of combustion pass away upwards from the fire in the usual way, and air-supply passages *C*, which supply all the air admitted to the fire to support combustion, at or as near as may be to the surface of the fire, substantially as described.

**71,466.**—HELMUTH DUEBERG, New York, N. Y.—*Brick Machine.*—November 26, 1867.—A reciprocating table has two sets of molds, which are alternately filled and emptied. The clay passes to the table through a spout which increases in one diameter while diminishing in the other. A feeder which rises from the table carries the clay to the molds. The bricks are pressed edgewise. The press boxes have apertures for escape of clay when exposed to undue pressure.

*Claim.*—First, the channels *F F'*, extending in opposite directions from the tapering spout *E*, and carrying the compressed clay to the reciprocating table *H*, substantially as and for the purpose set forth.

Second, the feeder *K*, in combination with the reciprocating table *H*, molds *I I'*, and press boxes *G G'*, constructed and operating substantially as and for the purpose set forth.

Third, the rocking lever *M*, carrying the followers *L L'*, and operating in combination with the reciprocating table *H*, molds *I I'*, and press boxes *G G'*, substantially as and for the purpose described.

Fourth, the recesses *h* in the press boxes *G G'*, to allow the surplus clay to escape, as set forth.

Fifth, the pieces of flannel, or other absorbent material, supplied with oil from cups *m*, in combination with the reciprocating table *H*, molds *I I'*, and followers *L L'*, constructed and operating substantially as and for the purpose described.

**71,467.**—EDWARD DUMPELMAN, Washington, D. C.—*Disinfecting Rooms, Ships, and Structures.*—November 26, 1867.—Composed of perchloride of copper, 90 grs., dissolved in water; alcohol  $\frac{1}{2}$  pint; chloroform,  $1\frac{1}{2}$  drachms; a small quantity of creosote may be added. The liquid is placed in a lamp and is burnt within the room.

*Claim.*—First, disinfecting rooms, ships, water-closets, and other apartments, by burning a liquid charged with any chloride salt, decomposable at the temperature of a burning flame, as described.

Second, a liquid for disinfection, being combustible and containing decomposable volatile chlorides, substantially as described.

**71,468.**—EDWARD S. EARLEY, Philadelphia, Pa.—*Fastening for Burial Caskets.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—The concealed fastening herein described, the same consisting of the plate *C* with slot *a b* and the stud *D c d* applied, respectively, to the under side of the lid *B* and top edges of the body *A*, and operating together, substantially as specified and shown and for the purposes and uses herein set forth.

**71,469.**—WM. T. EASTES, Madison county, Ind.—*Churn.*—November 26, 1867.—The dasher has a horizontal part connected at its edges to an arched part attached to the staff. The staff is operated by a lever connected by a rod to a crank. The fulcrum of the lever is vertically adjustable to accommodate the dasher to the requirements of churning and gathering.

*Claim.*—The dash *z*, substantially as and for the purpose set forth, in combination with the crank *d*, the rod *f*, the lever *g*, and the jointed arm *k x*, all all connected substantially as described.

**71,470.**—B. F. EDMANDS, Boston, Mass., and JAMES HAMBLETT, JR., Charlestown, Mass.—*Escape-ment for Electric Clocks and Dial Indicators.*—No-

vember 26, 1867.—The armature lever is connected by an oscillating block to the anchor-headed lever, by whose oscillation the pallets are alternately engaged with and disengaged from the scape wheel, each breaking of the circuit moving the wheel one tooth.

*Claim.*—First, the construction of an escapement in which the pallets are resilient, being attached to the end of springs or spring bars instead of to a rigid bar or anchor piece, so that one pallet will always enter between the teeth on one side of the escape wheel before the other is entirely pushed from between the teeth on the other side of the wheel, and in such manner that the power of the entering pallet renders the action of the pallet first propulsive and then detentive to the escape wheel, substantially as herein described.

Second, the anchor-shaped independent levers *L T T'*, or their equivalent, to actuate the movements of the pallets *P P'* to and fro, and cause them alternately to enter and leave the teeth of the escape wheel, as herein described.

Third, in combination with the resilient pallets and springs and the bent lever, the binding spring *K* and the stops or guards *V V'*, substantially as herein described and for the purpose specified.

**71,471.**—LEONARD EGLESTON, Seneca Falls, N. Y., assignor to RUMSEY & Co., same place.—*Machine for Polishing Inner Surfaces of Tubes.*—November 26, 1867.—The polishing blocks are pivoted to the ends of levers rotating with the mandrel to which they are pivoted, and the blocks are forced asunder by insertion of a cone between the rear ends of the levers.

*Claim.*—First, the combination of the shaft *A*, sliding cone *E*, crossed levers *C C'*, and polishers *D*, substantially as described.

Second, the combination of the lever *G*, yoke *F*, shaft *A*, cone *E*, and crossed levers *C C'*, substantially as and for the purpose set forth.

Third, the combination of the crossed levers *C C'* and polishers *D*, when the latter are attached by a pivot, so as to permit their longitudinal oscillation, substantially in the manner and for the purpose set forth.

**71,472.**—JOSEPH J. EVERST, Cumberland, Md., assignor to himself and G. P. GERHART.—*Churn.*—November 26, 1867.—The vertical dasher shaft has a disk above the cover, and it is rotated by a wrist pin on the disk, which has a connecting rod to an oscillating weighted hand lever. The dasher turns freely in the false bottom, but has a plate beneath its socket by which it is lifted out with the dasher. The cream passes under the edge of the bottom and up through the valves, being carried onward by the radial dasher arms.

*Claim.*—First, the combination and arrangement of the floor *C*, provided with valves *c c'*, and fitting loosely in the churn, so as to leave a space around its edge, with the vertical pieces *i i* and the dasher *D*, substantially as and for the purpose specified.

Second, the combination of the floor *C*, having valves *c c'*, with the dasher *D*, so that the dasher is free to revolve but yet is inseparably attached to the floor, substantially as and for the purpose specified.

Third, the combination of the lever *H*, slide *B*, pitman *P*, and wheel *E*, when used to operate the dasher of a churn, substantially in the manner and for the purpose specified.

Fourth, the dasher *D*, having the radial arms *e e* arranged on the shaft *d*, substantially as and for the purpose shown.

**71,473.**—J. E. EMERSON, Trenton, N. J.—*Apparatus for Punching Saw Teeth.*—November 26, 1867.—The saw plate has a series of holes punched through it in such position as to form, one after another, the inner part of the notch between the saw teeth as the saw wears away. The object is to lessen labor in gumming.

*Claim.*—The combination of a series of punches with a series of dies, each in its own stock, when so made and arranged that it will punch out the throat of a saw tooth, and a hole, or series of holes, behind or above said throat and in a line corresponding to the wear of the saw teeth, and at one operation, substantially as described.

Second, the so arranging of the series of punches



and the series of dies in their stocks as that they may be set to punch the throats of saw teeth and the series of holes behind or above them, in straight, inclined, or curved lines, as may be desired, substantially as described.

Third, making the punches of separate pieces of steel, and fitting them to recesses or grooves in their respective plates, substantially in the manner described, so that, when set up in the stock, one plate shall hold the punch of the next adjacent plate, throughout the series, substantially as described.

**71,474.**—JONATHAN B. EVANS, Millville, N. J.—*Door Latch*.—November 26, 1867.—The bolt is connected by a bell-crank lever to the spindle, and is retracted by an end movement of the latter. The bolt is again thrown forward by a spiral spring.

*Claim.*—The combination and arrangement of the bolt B, bent lever D, spring E, projection F, bolt and knob C, and case A, as and for the purpose specified.

**71,475.**—FREDERICK FITZGERALD, Cincinnati, Ohio.—*Vault Light*.—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—A vault light having a grooved or otherwise uneven upper surface and an under surface composed of a series of rounded parallel ridges *b c c'* of unequal depth, with intervening rounded valleys *d d'*, as and for the purposes set forth.

**71,476.**—A. FOUCAUT, New York, N. Y.—*Marine Telegraph*.—November 26, 1867.—Electric switches are arranged by the station of the commander. The switches sweep over segments having at different ends "starboard," "port," and "course."

The orders are transmitted to a receiving mechanism at the wheel house, which consists of magnets whose armatures are upon index arms which are made to point to the initials S, P, or C. Bells of different tones are also rung.

*Claim.*—First, the hinged segment *d*, provided with two armatures *f f'*, in combination with the index-hand *b* and panes L S, constructed and operating substantially as and for the purpose set forth.

Second, the saddle *i*, in combination with the spring *h*, hinged segment D, and index-hand *b*, substantially as and for the purpose described.

Third, the spring-stands *q\* r\**, in combination with the segment *d*, electro-magnets *g g\**, and electro-magnetic alarm bells S\* L\*, constructed and operating substantially as and for the purpose set forth.

Fourth, the lid *j* and "course" pane C, in combination with the electro-magnet *n*, armature *m* and switch D\*, constructed and operating substantially as and for the purpose described.

Fifth, the alarm bell C\*, in combination with the lid *j*, pane C, electro-magnet *n*, and switch D\*, constructed and operating substantially as and for the purpose set forth.

Sixth, the switch U, in combination with the rudder head R and electro-magnetic alarm bells H H\*, in the commander's box B, substantially as and for the purpose described.

Seventh, the regulator W, carrying non-conducting segments of different length, in combination with the switch U and rudder head R, constructed and operating substantially as and for the purpose described.

**71,477.**—FREDERICK C. FULLER, Lowell, Mass.—*Lubricating Rollers in Spinning Machines*.—November 26, 1867.—The tubular arbor has oil holes near its midlength, and oil holes leading from the inside to lubricate the shell rolls.

*Claim.*—The central passage *c* and oil holes *c* and *n* in the arbor *a* of the shell rolls, for the purpose and substantially as described.

**71,478.**—JOHN C. GOULD, Oxford, N. J.—*Gate and Door Spring*.—November 26, 1867.—The up-turned end of the link engages the yoke plate and tends to close the gate. When the gate is closed this end enters a recess of the yoke and holds the gate shut.

*Claim.*—The combination of a spring and link, or its equivalent, with a yoke *a b* curved, substantially as described and for the purpose specified.

**71,479.**—JOHN D. GRÜNEBERG, Spring Mills, N. J.—*Alloy for Making Plates and Sheets*.—November

26, 1867.—Substitute for tin, composed of tin 50 parts, antimony 4, and bismuth 1 part; or tin  $\frac{1}{2}$ , copper  $\frac{1}{2}$ , and lead  $\frac{1}{2}$ . A sheet of lead and a thin sheet of the alloy are then rolled together between polished and heated rollers. The sheets may be coated with paint and passed through the rollers to form a close connection.

*Claim.*—The above described article of metal, made from the metals, and of the proportions, and by the means, and in the manner substantially as specified.

**71,480.**—FRED. HAIGHT, Methuen, Mass.—*Loom*.—November 26, 1867.—The shuttle is arrested in the box on its entrance to prevent rebound, and released preparatory to the throw. The end is kept in near proximity to the picker to prevent injury to the same.

*Claim.*—The combination of the shaft *d*, and its arms *f g*, with the puppet *l* and the slider *k*, its studs *h i*, spring *n*, and collar *m*, the whole being applied together as and for the purpose or objects specified.

Also, the combination of such mechanism, or its equivalent, with the loom-frame and lay, to operate with the shuttle as specified.

Also, the combination of the stop-serew *o* and cross-piece *p*, with the shaft *d* and its arms *f g*, the puppet *l*, the slider *k*, its studs *h i*, spring *n* and collar *m*, or the equivalents thereof.

**71,481.**—CHARLES A. HARPER and ISAAC A. CRANE, Rahway, N. J.—*Detachable Oven and Drum*.—November 26, 1867.—The drum oven is placed on a stove pipe, and the caloric current forced to diffuse itself over the oven plates. The air has a forced circulation within the oven which may be regulated by registers in the door.

*Claim.*—First, in combination with the external case A and internal oven D, the flanges E, located as described, pipe G and damper H, for the purpose of effecting distribution of the heat, substantially as set forth.

Second, in combination with the external casing A and oven D, the door I, with the lower and upper series of openings at K and K', and the plate L so placed as to leave the space L' at the back of the oven, substantially as and for the purpose set forth.

Third, in combination with the external case A, oven D and pipe B, the plate B', arranged to operate substantially as and for the purpose set forth.

**71,482.**—HOSEA B. HARVEY, West Meridian, Conn.—*Forging Outlery*.—November 26, 1867.—The blanks are fed in between the feed rolls and are carried to the forming rolls, by which they are swaged into shape.

*Claim.*—First, the combination of the two rolls C and D, each having a recess or die formed in its face, the one corresponding to the other, and arranged so as to receive and form the blank for outlery, substantially as herein set forth.

Second, in combination with the above, an automatic feeding device, constructed and arranged substantially as described, so as to introduce the blanks to the rolls at the proper time.

**71,483.**—PETER HENDRICKS, Floris, Iowa.—*Bridge*.—November 26, 1867.—The suspension ropes are connected to braced trusses and have stirrups strung along them for support of the cross-sills.

*Claim.*—First, the combined wire suspension chain or cable and truss bridge, constructed substantially in the manner herein described and shown.

Second, the twisted wire stirrups F, applied substantially in the manner and for the purpose described.

Third, the combination of the wooden trusses B<sup>2</sup> N, braced, stayed and anchored, substantially as shown, with the wire suspension chain or cable D, wire stirrups F, and the platform K, all substantially as described.

**71,484.**—GEORGE P. HERTHEL, Jr., St. Louis, Mo.—*Truss Bridge*.—November 26, 1867.—Improvement on his patent November 20, 1866. The last piece of the upper chord abuts upon the bolt which passes through the end of the lower chord. The upper end of the last piece abuts against a bolt at the upper end of the compression post, which is surrounded by the tension tube. This post is attached



to a bolt in the lower chord. Rollers surround the end bolt by which expansion of the metal is allowed.

*Claim.*—First, the combination of the last piece *a* of the upper chord A with the end bolt B', the lower chord C, the queen bolt D, the compression post E, and tension-post rod G and king bolt B, substantially as and for the purposes set forth.

Second, the end bolt B', in combination with the rollers *b* and the chords A and C, substantially as set forth.

Third, the general combination of the upper chord A, the lower chord C, post rods G', posts E, and braces F, substantially as set forth.

**71,485.**—SANFORD A. HICKEL, Spencer, Pa.—*Enamel for Leather.*—November 26, 1867.—Composed of alcohol, 1 gall.; gum shellac, 1½ lb.; Burgundy pitch, ¼ lb.; camphor, 1 oz.; after dissolving add gum copal, 2 oz.; rosin, 2 oz.; dissolved in turpentine, ½ pint; then add lampblack, 3 oz.

*Claim.*—The combination of the above materials or ingredients in the proportions named, and the resulting compound; the improved enamel finish, and the application of the same to leather, wood, iron, steel, and cloth.

**71,486.**—HENRY HILL and L. E. P. BUSH, Lexington, Ky.—*Apparatus for Killing Insects.*—November 26, 1867.—The water is contained in an annular chamber over the lamps, and is poured from an elongated nozzle into the shelter holes of the bugs.

*Claim.*—The heater A, provided with the flue B, cylinder K, and adjustable tables *g f*, as and for the purpose set forth.

**71,487.**—F. HULL, Birmingham, Conn.—*Hoop Skirt.*—November 26, 1867.—The several hoops are formed by passing one or more springs through a tape formed with longitudinal pockets for their reception.

*Claim.*—The attachment of hoops to vertical tapes by means of the spring inserted, so as to pass through the pocket in the vertical tape while the covering of the wire is upon the outside of the pocket in the vertical tape, substantially as herein set forth.

**71,488.**—SAMUEL C. HUNTER, East Hickory, Pa.—*Seed Planter.*—November 26, 1867.—The seed hoppers are operated by cams upon the main wheels, and the dropping boxes are hinged at their upper ends, and so connected to a lever that they may be swung inward by the latter and free the dropper pins from the impact of the cams. The standards of the coverers have vertical adjustment in the frame.

*Claim.*—The construction of a seed planter, with the dropping boxes C C, constructed as described, in combination with the lever E and the eccentrics N N N, and the false wheel B and the covering plows P P, when the same are constructed as described, in the aforesaid combination, for the purposes set forth.

**71,489.**—PATRICK HUTCHINSON, Boston, Mass.—*Churn.*—November 26, 1867.—Reciprocating motion is given to the two dashers by their connection to two bell cranks, whose other ends are connected by rods to an adjustable crank pin on a rotating wheel.

*Claim.*—The arrangement and combination of the two bent levers E E', their connecting rods F F', single adjustable crank pin G, and slotted crank H, together and with the driving shaft, the two churn dashers D D', and the gallows frame C, the whole being substantially as specified.

**71,490.**—G. L. INGERSOLL, Cleveland, Ohio.—*Water Heater for Stoves.*—November 26, 1867.—The case is connected to the stove flue, and the calorific current passes around the boilers contained therein. A head of water from the hydrant or an elevated cistern is forced into the induction pipe connected to one of the communicating boilers, and passes out through the other with the force of the head upon it. The induction pipe may communicate with a bath tub in an upper chamber.

*Claim.*—A cylindrical boiler or boilers G G, connected to each other by pipes H, and provided with induction and eduction pipes I I', when inclosed within a case F, with or without the extension bottom C, in combination with the stove A, for the purpose and in the manner substantially as set forth.

**71,491.**—J. NELSON JACOBS, Worcester, Mass.—*Knife and Scissors Sharpener.*—November 26, 1867.—The file is secured in the block of wood, and a piece of soft metal secured over the file to act as a rest for the edge of the knife, when its side is in contact with a shoulder of the block.

*Claim.*—First, the combination of the slots E and F, the file B, screw D, and plate C, as and for the purpose specified.

Second, in combination with the above, finishing the ends of the blocks of wood by covering the same with flock, emery, or other like fine fibrous or granular substance, for the purpose specified.

**71,492.**—JAMES JENKINSON, Brooklyn, N. Y.—*Apparatus for Applying Clasps to Skirts.*—November 26, 1867.—The clasps or spangles are placed in a hopper and pass over inclined feeding plates operating in combination with oblique guides and slots, and influenced by the tremulous motion of the machine to feed the clasps to the passage leading to the clinching mechanism.

*Claim.*—First, the combination with a supply box or hopper A and stationary inclined feed board C of the preparatory or intermediate feed board or plate B, made adjustable as regards the inclination of its surface, substantially as specified.

Second, the turn-over plate J, in combination with the guide bar I, for operation essentially as and for the purpose or purposes herein set forth.

Third, the arrangement of the slot *e* in the inclined feed board or plate C, with relation to the divider K, for action together, as herein set forth.

Fourth, the divider K, hinged at its outward end, so as to be capable of being raised for the passage of the dirt or clearance of an imperfect spangle without removing the gate, substantially as specified.

**71,493.**—JOSEPH JOHN, Massillon, Ohio.—*Corn Planter.*—November 26, 1867.—The seed disk is rotated by a bevel wheel meshing into another, which turns loosely upon a shaft rotated by the ground wheels. The shaft is connected with the loose wheel by a clutch. The seed is covered by a roller which is periodically depressed by the impingement of a cam upon the upper end of a lever to which it is hung.

*Claim.*—First, the arrangement of the shafts E and F, clutch T, wheels G and H, shaft I, wheel L, and spout M, in the manner and for the purpose set forth.

Second, the arrangement of the cam block Q with the bar P, roller O, and spring *a*, as and for the purpose set forth.

**71,494.**—C. F. JOHNSON, East Saginaw, Mich.—*Manufacture of Salt.*—November 26, 1867; antedated November 15, 1867.—The brine is carried in a narrow trough in the most heated route from the boiling box in front back through the smoke stack, and discharges into the rear end of the lower body of the brine, to cause movement of the latter to the front, to equalize the temperature.

*Claim.*—First, constructing a narrow pan or trough A, or its equivalent, for carrying the brine in the most heated route from the boiling box B, in front, back through the smoke stack C, and emptying it into the rear end of the unsettled or lower body of brine D.

Second, making large openings E in the front end of the crystallizing pan F and on either side of the boiling box B, to prevent the pressure upward and leakage of the unsettled or lower body of brine on the crystallizing pan F.

Third, constructing a vat-bottom in the way and manner set forth in the drawings.

**71,495.**—JOSEPH B. JOHNSON, Lynn, Mass.—*Shaping the Soles of Boots and Shoes.*—November 26, 1867.—The sole is pressed into form between the mold and last, the latter being depressed by a screw.

*Claim.*—The combination of the mould, the press, the last, and the elastic bottoming of the latter.

Also, the combination of the presser with the press, the mold, and the last, and its elastic bottoming, as set forth.

**71,496.**—J. DWIGHT KELLOGG, Jr., Northampton, Mass.—*Tube Well.*—November 26, 1867.—The tube is slotted for the passage of water, and contains



at its lower end another tube, which is removable therefrom, having a bail for that purpose. This inner tube has an upper and under flange fitting to the pipe, the upper one serving to prevent mud passing upward, and the lower one serving when the pipe is removed to draw forth impurities. This inner pipe is slotted and filled with pebbles, to act as a filter.

*Claim.*—The removable slotted interior tube C, having the bail *r* and flanges *e e'* adapted to contain the enclosed filtering substance *i i*, when used in combination with the well tube A, substantially in the manner and for the purposes specified.

**71,497.**—W. H. N. KIMBALL, Lynn, Mass.—*Machine for Rounding Up Soles.*—November 26, 1867.—The pattern is attached to the top of the blank, and kept in contact with the guide while the feed rollers are turned, and the blank is cut to form by the knife edge beneath.

*Claim.*—For use, with a pattern and a knife and a feeding mechanism, such an arrangement of a gauge for the pattern to bear against that the chip cut will pass beneath the gauge, so as not to obstruct the view of the operator, thus enabling him to keep the pattern always in contact with the gauge, substantially as described.

**71,498.**—CHARLES L. KINGSLEY, Meriden, Conn., assignor to CHARLES PARKER, same place.—*Bench Vice.*—November 26, 1867.—The plate is secured to the sliding jaw, and holds to the outer side of the collar upon the screw, causing the jaw to be drawn out with the screw.

*Claim.*—The plate D constructed with the channels, as described, and arranged upon the projection C on the jaw B, so as to be adjusted thereon in the manner specified.

**71,499.**—JOHN KIRKMAN, Peoria, Ill.—*Process of Cleaning Cotton Seed.*—November 26, 1867.—The cotton seed is subjected to the action of sulphuric acid to remove the fiber.

*Claim.*—The process of cleansing cotton seed by the action of sulphuric or other acid, either separately or combined, substantially as and for the purpose above described.

**71,500.**—WARREN J. NACE, Tippecanoe City, Ohio, assignor to himself and GEORGE L. HAFER, same place.—*Device for Cleaning Stove Pipes.*—November 26, 1867.—The scraper is attached to a chain on each side. One chain tends to draw it in a vertical position toward the vertical part of the pipe, to discharge the soot therein. The other chain is coiled upon a windlass, and is so attached as to place the scraper in a horizontal position in its return stroke.

*Claim.*—The provision in a stove pipe of the crank rod D, loaded disk F, bail I K, and chains J and L, the whole being arranged and adapted to operate as set forth.

**71,501.**—JOHN F. MYERS, NOAH LEAS, and WORLEY LEAS, Kokomo, Ind.—*Furnace for Steam Boilers.*—November 26, 1867.—Immediately behind the fire space is a damper plate, which is operated by racks and spur wheels, to cut off the calorific current from the rear of the boiler and flues, the said current then passing up the side flues directly into the chimney. Doors in the furnace side admit air into the space behind the fire space.

*Claim.*—First, the combination of the vertically-sliding damper D, chamber G, and doors G', for the regulation of the draughts, said parts being arranged substantially as set forth.

Second, the combination of the vertical sliding damper D with the pipes D<sup>2</sup>, having valves D<sup>1</sup>, when arranged to control the course of the draught, substantially as set forth.

**71,502.**—WALLACE T. MUNGER, Branford, Conn., assignor to THOMAS KENNEDY, same place.—*Attaching Knobs to the Spindles of Door Locks.*—November 26, 1867.—The neck of the knob has a screw socket receiving the screw-threaded end of the spindle. A collar slipping loosely on the rectangular part of the spindle has a counterpart shoulder to one on the neck. The shoulder has a circumferential groove receiving the edges of a slot in the plate.

*Claim.*—The combination of the collar *d* with the

neck F of the knob, provided each with corresponding shoulders, arranged and combined with the plate G so as to operate to secure the knob, substantially in the manner as herein set forth.

**71,503.**—THEODORE MUNGER, Janesville, Iowa.—*Gate.*—November 26, 1867.—The gate opens by sliding longitudinally. It is operated by a cord, pulley, and an adjustable crank shaft.

*Claim.*—The adjustable pieces *e e' e''*, in combination with the gate G, substantially as and for the purpose shown.

**71,504.**—LEANDER MUDGE, Springfield, Ohio.—*Bed Bottom.*—November 26, 1867.—Explained by the claim.

*Claim.*—A bed bottom, constructed with a small cord G, traversing the space between the side rails, passing around pulleys B, attached to the latter at close intervals, and connected at one end to the bedstead or to a spring C, and at the other to a tightening axle D, substantially as described.

**71,505.**—EDWARD A. MUCKLE, Philadelphia, Pa.—*Magie Watch Case.*—November 26, 1867.—The inner case is secured to the pendant, and may be turned 90° when the covers are open.

*Claim.*—First, the inside case E, rotated by the pendant F, substantially as described.

Second, the pendant F, journaled in the center B, and having secured to it the rotating inside case E, substantially as and for the purpose described.

Third, the pusher G, protruding at the side of the pendant F, above its end, substantially as described for the purpose specified.

**71,506.**—DUNCAN MORRISON, Portland, Me.—*Apparatus for Converting Rotary into Reciprocating Motion.*—November 26, 1867.—The motion of the pendulum rock shaft, actuated by a lever, is communicated to a crank connected to the saw sash.

*Claim.*—The arrangement of the several devices hereinbefore described, to wit, the swinging arm *a b*, shaft *e*, gear *d*, shaft *f*, wheel *h*, gear *c*, connecting rod *i*, saw frame *k*, lever *p*, bed *r*, in and upon the frame A, to constitute a convenient means of working a wood saw, substantially as specified.

**71,507.**—GILPIN MOORE, Moline, Ill.—*Plow.*—November 26, 1867.—The movable wedge bolt is inserted between the beam and standard, having a slot for passage of the holding bolt. The said slot allows the adjustment of the wedge bolt to change the side inclination of the beam.

*Claim.*—First, a movable wedge bolt, arranged to operate as described, for adjusting the beam of a plow laterally, substantially as set forth.

Second, a cast standard, having a slot or recess formed therein to receive the movable wedge bolt, and used in combination therewith for adjusting the beam of a plow, substantially as described.

**71,508.**—JAMES MONTGOMERY, Croton, N. Y.—*Manufacturing Tubular Bodies.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—The construction of hollow wrought metal bodies, by combining with segmental or main bars *a* intermediate double-headed bars *b*, and afterwards welding the same together, substantially as specified.

**71,509.**—S. MILLER and J. S. McCLELLAN, Champaign County, Ohio.—*Awning.*—November 26, 1867.—The lower edge of the awning is attached to the boards, which are secured to the side extensors. The extensors are made in toggle sections operating as lazy tongs. The upper edge of the awning is coiled on a roller operated by a cord; it is held by a pawl to keep the canvas stretched. The spiral spring acts to keep the arm extended.

*Claim.*—The combination of extension arms G, spiral spring H, canvas A, boards K, and cord I, the whole constructed and operating as described and for the purposes set forth.

**71,510.**—CHARLES H. MILLER, Buffalo, N. Y., assignor to CHARLES HARRISON, New York, N. Y.—*Valve for Water Closets.*—November 26, 1867.—The valve stem has an adjustable piston screwed thereon and working loosely in a cylinder; the latter fills with



water during the opening of a valve, and keeps the same open until the displacement of the water by the piston. The quantity of water is regulated by adjustment of the piston. The cylinder is made removable for repairs.

*Claim.*—First, the adjustable piston D, in combination with the valve C and cylinder B, substantially as described.

Second, the removable cylinder B, arranged in the body of the faucet, and forming a water chamber above the piston, for the purpose and substantially as described.

**71,511.**—GEORGE B. MERSHON, Philadelphia, Pa.—*Folding or Lunch Box.*—November 26, 1867.—The plates composing the ends and sides may be folded together, or they may form a rectangular box by aid of the corner pintle pins.

*Claim.*—The arrangement of the sides A B C D, and ends E and F, and hinges attached to the sides D E and F, completed by the pins I I, when the box is in form for use, and the parts K K, for the purpose of closing the box, in connection with the pins I I and the hinging at the ends of the side D, when folded.

**71,512.**—E. M. MAYO, Cincinnati, Ohio.—*Machine for Cutting Thread of Screw Bolts.*—November 26, 1867.—The bolt head enters a rectangular recess in the longitudinally sliding stock. The dies are secured to jaws pivoted to the tubular spindle of the head stock. The forward ends of the jaws are brought together by toggle levers at their rear ends. The toggle levers are pivoted to a circumferentially-grooved collar turning with the mandrel, but slid thereon by a hand lever.

*Claim.*—The die-holding levers C, pivoted to the head B, secured to the end of the hollow mandrel A, connected by the links D to the sliding collar E and the lever G, all arranged to operate as shown and described.

**71,513.**—ELBRIDGE G. MATTHEWS, South Natick, Mass., assignor to FRANK F. HOLBROOK, Boston, Mass.—*Plow.*—November 26, 1867.—The standard frame is cast with the landside, and has provision for attachment of a separate sole. It has also an upwardly and backwardly extending arm for attachment of the rear part of the beam and the stilts. The sole has a tooth engaging a buttress lug cast upon the bottom of the frame, to prevent back strain on the attaching bolts.

*Claim.*—First, the arrangement of the arm A, its flanges and shelf c, or their equivalents, with the plow standards S, and its base a, as described.

Second, the arrangement of the tooth f and the buttress g with the plow standard and its shoe, as set forth.

Third, the plow standard as made with an arm to extend back and up from its base, so as to give support to the two handles and the beam, substantially as set forth.

**71,514.**—JOHN MACDOUGALL, New York, N. Y.—*Portable Gas Apparatus and Carburetor.*—November 26, 1867.—The mouth of the tube admitting air to the liquid faces downward to prevent the entrance of liquid. A floating valve is arranged to close the mouth of the tube when the liquid rises to that height. The air tube has a pipe to conduct away any result of condensation. A cap at the outer end of the tube prevents escape of vapor. The air tube, where it passes through the end of the rotating vessel, is bent around the shaft of said vessel. The end of the rotating vessel where the power is applied is inclosed within a jacket, and intermediate gear arranged within the jacket to prevent leakage of vapor. Inclined surfaces enable drawing off heavy oil without stopping the machine. The oil is fed automatically.

*Claim.*—First, the air tube o-p, arranged around the shaft e at the place where it passes through the end of the rotating vessel, substantially as described.

Second, arranging the mouth of the branch p of the air pipe o-p in such a manner that it opens downwards over the surface of the oil, substantially as described.

Third, the floating hinged valve q, arranged substantially as described, under the mouth of the air pipe o-p.

Fourth, the escape pipe r, for the discharge or escape

of condensed matters from the pipe o-p, substantially as described.

Fifth, the application of a valve or cover to the outer end of air pipe o, to close it when the apparatus is not in operation, so as to prevent the escape of vapor, substantially as specified.

Sixth, enclosing the geared end of shaft e within a jacket, and setting the shaft of a gear that drives said shaft in the upper part of the jacket, so as to prevent the oil from leaking at the end of shaft e, substantially as shown.

Seventh, the inclined double bottoms 6, in the oil-containing vessels h j, or either of them, substantially as and for the purpose described.

Eighth, the U-shaped pipe n, leading from the supply tank j, and terminating in the outer apartment m, substantially as described.

Ninth, the air-conducting tube l, leading from the air space of tank j, and terminating in the outer apartment z, when its lower end is cut off at an angle, substantially as and for the purpose described.

Tenth, the arrangement of the inverted conical valve x in the pipe t, in such a manner that its base closes the valve opening of said pipe, and its narrow end operates to guide the valve and keep it straight in its movements, substantially as shown.

Eleventh, the connection of the top of the receiving vessel t with the valve x by means of the rigid arm y, whereby the valve is moved back and forth by positive force, substantially as set forth.

**71,515.**—SHEDERICK J. LOWE, Quincy, Ill.—*Lamp for Kindling Fires.*—November 26, 1867.—The wick tube is bent in ogee form, and is extensible and retractable within its curved case.

*Claim.*—First, a lamp provided with a traversing adjustable wick tube that may be moved or slid in and out when required.

Second, making the traversing adjustable wick tube of a lamp curved, substantially as described for the purposes set forth.

Third, in combination with the oil vessel, the case C for holding and guiding the wick tube, substantially as described.

Fourth, in combination with the traversing wick tube, the hinged slotted plate L and ring K for holding the wick tube, as described.

Fifth, in combination with the oil vessel, the shield or guard plate Q, arranged in front to keep the heat of the fire kindled from heating the oil vessel.

Sixth, the partition in the oil vessel to hold the oil back when the lamp is tipped, and to prevent it from running to the wick so freely as it would do if there were no partition.

**71,516.**—WM. B. LODGE and HIRAM PLATNER, Danbury, Conn.—*Felting Machine.*—November 26, 1867.—The bats are placed in the pockets formed by the aprons which are attached to the end of the reciprocating boards, and passing over the table are wound on the take-up rollers beneath the table. The boards are connected to the upper ends of levers oscillated by connection to an eccentric. The treadles are connected by cords and walking beams to the boards, and pressure on the treadles raises the boards to free the bats.

*Claim.*—First, the combination of the boards D and E, one or both having a reciprocating motion, as described, with an apron or pocket G for holding the goods to be felted, arranged and operating substantially as specified.

Second, the combination with the felting boards D and E and apron G of the take-up or adjusting rollers d to the latter, substantially as specified.

Third, in combination with the felting boards and aprons G, the treadles h, for effecting the delivery of the goods from the bath, essentially as described.

**71,517.**—ROBERT Z. LIDDLE, Brooklyn, N. Y.—*Hot-air Furnace.*—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination with the main body of a furnace, constructed substantially as described, of a single or double feeder, substantially as and for the purpose set forth.

Second, extending the conducting pipes or channels I I I, or their equivalents, for supplying the double feeder with air through the walls or casing which encloses the furnace and into the cold air space be-



yond said walls or casing, so as to supply said feeder with cold air, substantially as heretofore set forth.

Third, the combination, in an air-heating furnace containing a single or double feeder, of the annular flue or ring R with short pipes or connections C, connecting the smoke chamber with said ring, said short pipes or connections and ring being surrounded by air passages, substantially as described.

Fourth, the combination, in an air-heating furnace containing a single or double feeder, of the sliding damper N with the annular flue or ring R, and short pipes or connections C, substantially as described.

Fifth, closing or reducing the size of the openings through one or more of the short pipes or connections C in an air-heating furnace containing a single or double feeder to equalize the draught from the combustion chamber, and to shut off direct communication from the combustion chamber to the exit pipe, substantially as described.

**71,518.**—CHARLES C. LLOYD, Philadelphia, Pa., assignor to AMERICAN METER COMPANY, New York, Philadelphia, and Boston.—*Dry Gas Meter*.—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, making the flag staff C and its horizontal arm  $c'$  in one piece, by bending it as described and set forth for the purpose specified.

Second, connecting the flag D to the bellows disk E by means of a hinge joint, consisting of the vertical stem  $f'$  and the brackets  $j''$  and  $f'''$ , when the said parts ( $f' f'' f'''$ ) are constructed and connected together in the manner described and shown, for the purposes specified.

Third, maintaining the requisite parallelism between the bellows disk E and the partition  $a'$ , during the motions of the former, by means of the coupling arrangement G G' G'' combined therewith, substantially as and for the purpose described.

**71,519.**—WM. LINDON, New Haven, Conn.—*Clock*.—November 26, 1867.—The clock has an attachment by which the quarter hours are struck, and the power to cause the striking is induced by the operation of the clock movement.

*Claim.*—The arrangement of the cam S, combined with the bar H and the hammer I, so as to operate in the manner substantially as set forth.

**71,520.**—JACOB LEMLEY, Jr., Newtown, Va., assignor to himself, I. W. YEAKELL, and C. O. KLINE, same place.—*Measuring and Laying Out Garments*.—November 26, 1867.—Angles of direction are indicated on a stationary former, and graduated scales used therewith, for formation of garments agreeing in form but varying in size.

*Claim.*—The combination of the formers, on which are indicated a single table of measurements, with a series of graduated scales, said scales being entirely independent of each other and of the former, but so arranged as to be susceptible of being readily attached to and detached from the former, substantially as described.

**71,521.**—EZRA B. LAKE, Bridgeport, N. J.—*Nail Plate Feeder*.—November 26, 1867.—The plates are placed upon the pulleys, and furnished one by one to the feed rolls by which they are forwarded to the feed point. The barrel has rotary motion by gearing, longitudinal motion by a cam groove, and oscillating movement by the transverse reciprocation of the plate at its forward end.

*Claim.*—First, the barrel C, constructed substantially as described, in combination with the devices herein described, or their equivalents, for imparting to the said barrel a combined rotary, longitudinal, and vibratory motion, for the purpose specified.

Second, the above, in combination with the vibrating plate B, swinging frames  $b$  and  $f$ , and rings  $c$  and  $e$ , for vibrating the barrel C, as described.

Third, the casing F, constructed substantially as described, turning in the hinges  $j$  and  $j'$ , and arranged on plate D to slide on the vibrating plate B, in the manner and for the purpose specified.

Fourth, the casing F, combined and operating in conjunction with barrel C, as specified.

Fifth, the box G, adapted to an opening in the casing F, and arranged to slide in the same, substantially in the manner described.

Sixth, the above, in combination with the spring  $n$  and its flap  $n'$  for holding and guiding the plates  $x$ .

Seventh, the combination of the pulleys  $p$  and  $p'$ , the band  $q$ , its projections  $q'$  and the spring  $w$ , the whole being constructed, arranged, and operated substantially as described, for propelling, holding, and guiding the nail plates.

Eighth, the rollers  $v v'$  and the springs  $y y^1$  and  $y^2$ , within the passage  $z$ , combined and arranged as and for the purpose specified.

Ninth, the lugs  $u$  of the spindle  $r'$ , combined with the adjustable sleeve  $t$  and spring  $t'$ .

**71,522.**—J. A. LEIBEY, Davenport, Iowa.—*Horse Power*.—November 26, 1867.—Explained by the claim.

*Claim.*—Constructing horse powers with a single driving shaft  $f$ , extending under the master wheel, out at each side, and provided with a coupling at its opposite ends, substantially as and for the purpose set forth.

**71,523.**—WM. LEIGHTON, Wyandott, Mich.—*Fagot for Railroad Rails*.—November 26, 1867.—The lower iron bar of the pile has a longitudinal, V-shaped recess, which is filled in with steel. In rolling the steel is spread over the top of the rail.

*Claim.*—The V-shaped socket A and the V-shaped block C, on the pile of flats B, substantially as and for the purposes specified.

**71,524.**—HARRISON OGBORN, Richmond, Ind.—*Stove-pipe Damper*.—November 26, 1867.—Between two of the plates of a three-plate stove-pipe damper a fourth sliding plate is placed in such a manner that the pipe may be closed or opened to the required extent for the passage of the calorific current.

*Claim.*—First, the plate F provided with end pieces  $f$  sliding in the slots  $c'$  and  $d^2$ , substantially as described.

Second, the slots  $c'$  in the cross-plates C', substantially as and for the purposes described.

Third, the slots  $d^2$  in the parts  $d^1$  of the bearings D D', substantially as and for the purposes described.

Fourth, the combination of the plate F provided with end pieces  $f$ , the cross-plates C' provided with slots  $c'$  and bearings D D', the parts  $d^1$  of which have slots  $d^2$ , substantially as and for the purposes described.

Fifth, the combination of the cone-shaped plates B and B<sup>2</sup>, circular plate B<sup>1</sup>, provided with an opening  $b$ , sliding plate F, with end pieces  $f$ , cross-plates  $c c'$ , the latter provided with slots  $c'$  and bearings D D', with grooves  $c$ , and consisting of parts  $d d^1$ , the latter having slots  $d^2$ , substantially as and for the purposes described.

**71,525.**—JACOB D. C. OUTWATER, Newark, N. J.—*Combined Cultivator and Potato Digger*.—November 26, 1867.—The digger is converted into a cultivator by attachment of cultivator shares to the outer sides of the landsides.

*Claim.*—First, casting the shoe with a slotted cylinder, or its equivalent, on its under surface, substantially as described and for the purposes set forth.

Second, the cylinder cast on the under surface of the shoe, in combination with the tines K K and rod  $e$ , when the same are constructed, arranged, and operated substantially as described.

Third, operating the tines K K by means of a shaft G, having pins  $d d$ , said pins being constructed with or without slotted or bevelled heads, when the same are arranged substantially as described.

Fourth, the shaft F constructed with pins  $d d$ , when said pins are so arranged as to work between the tines K K, substantially as described and for the purpose set forth.

Fifth, the main shaft E having one or more ground or driving wheels attached, one of said wheels being furnished with cogs, substantially as described and for the purpose set forth.

Sixth, constructing a potato digger with landsides C C, substantially as described and for the purpose set forth.

Seventh, the brace rod or cutter P, when the same is arranged substantially as described and for the purposes set forth.

Eighth, the diagonal brace rod S, when the same is constructed and arranged substantially as described and for the purposes set forth.



Ninth, the slotted brace bar D arranged between the landsides C C, when the same is constructed and arranged substantially as described.

Tenth, securing the beam above the landsides C C by means of the braces M M, when the same are combined and arranged substantially as described.

Eleventh, securing the cultivator shares *h h* to the landsides C C, when the same are constructed and arranged substantially as described, and for the purpose set forth.

**71,526.**—H. A. S. PARK and J. H. VAN PELT, Cumberland, Md.—*Washing Compound*.—November 26, 1867.—Composed of bicarbonate of soda and hyposulphite of soda in equal parts.

*Claim.*—First, a “detergent compound,” of which the hyposulphite or hyposulphate of soda is an ingredient.

Second, the combination of the hyposulphite or hyposulphate of soda with the bicarbonate of soda in equal quantities, so as to form a detergent compound, substantially as and for the purpose specified.

**71,527.**—CHARLES H. PARSHALL, Detroit, Mich.—*Anti-friction Journal for Car Wheels, &c.*—November 26, 1867.—The axle is supported in anti-friction bearings, and has one wheel supported in the same manner upon it.

*Claim.*—In combination with the pedestals and axle of a railroad car two anti-friction bearings, constructed substantially as set forth, and also a tight and a loose wheel, the latter turning upon a similar bearing, substantially as and for the purpose set forth.

**71,528.**—CHARLES E. PATRIC and LYMAN RICKFORD, Macedon, N. Y.—*Grain Drill*.—November 26, 1867.—The distributors have two segmental passages varying in size, and the grain can be determined to either passage by a slide within the hopper. These passages are separated by a rotating wheel which has radial ribs carrying forward the grain to the discharge opening in the side. The drill spouts are raised by chains, a rock-roller and lever.

*Claim.*—First, the distributors provided with the enlarged seed runs or passages, having the contracted throat or gauge formed therein, for the purpose set forth.

Second, the concave depression or sink formed in the distributor shell above the discharge outlet or opening, for the purpose set forth.

Third, the upper flanges of the distributor shell or casings, formed or cast with the slots or notches *p*, substantially as and for the purpose set forth.

Fourth, the manner of forming the axis or bearings of the distributor wheel, by means of annular flanges and grooves formed in the adjacent faces of the casings and wheel, substantially as described.

Fifth, the vertical distributors, provided with a double feed and operated by means of a square shaft or its equivalent, in combination with a slide hopper bottom for adjusting or regulating the feed, as set forth.

Sixth, the “wind guard” P in combination with the vertical distributors, applied and operating substantially as described.

Seventh, the lifting bar L secured in the described relation to, and in combination with, the angle irons M, substantially as and for the purpose set forth.

Eighth, the angle irons M to which the lifting bar is attached, provided with the horizontal flanges or stops *m*<sup>2</sup>, substantially as and for the purpose set forth.

Ninth, the combination of lifting bar L, angle irons M, and lifting lever N, arranged and operating as described, with the drill tubes, in the manner and for the purpose set forth.

Tenth, the employment of the short stationary axles C attached to the outer frame bars and to the short inner ties or bars A<sup>2</sup>, in the manner and for the purpose set forth.

**71,529.**—JOHN R. PAUL, Philadelphia, Pa.—*Apparatus for Sponging Cloth*.—November 26, 1867.—The cloth is sponged by steam applied through a perforated adjustable horizontal cylinder around which it is rolled.

*Claim.*—The adjustable perforated horizontal cylinder D E, constructed, arranged, and operating as above described.

**71,530.**—HENRY PENNIE, New York, N. Y.—*Ice Rack for Refrigerators*.—November 26, 1867.—The gutters of the removable rack have cross cleats to arrest sedimentary impurities.

*Claim.*—The use of the cross cleats B, for the purpose specified, in a corrugated metallic ice rack, substantially as described.

**71,531.**—O. H. PERRY, Cincinnati, Ohio.—*Molding Machine*.—November 26, 1867.—The stuff is subjected to the simultaneous action of the saw and cutter.

*Claim.*—The cutter head C', adjustable guides L and K, slotted table A', and saw M, when arranged in relation to each other and operating substantially as and for the purpose described.

**71,532.**—JOHN PRENTICE and WM. F. WUTERICH, New York, N. Y., assignors to JOHN PRENTICE.—*Cigar Machine*.—November 26, 1867.—Improvement on the patent of John Prentice, September 6, 1864. The improvement is in the means of giving pressure on the filling or separating the rollers for removing the cigar; for removing surplus tobacco from the ends of the filling, and for giving end motion to one of the rollers to cause the wrapper to be pressed upon the tip of the cigar as it rotates within a mold.

*Claim.*—First, the shaft *o* with the cranks 4 and links 5 to the boxes 2 of the shaft *n* for drawing back the roller *m*, as set forth.

Second, the roller *p* mounted on arms *p'* from the shaft *o*, in combination with the rollers *d e* and *m*, as and for the purposes set forth.

Third, the roller *m*, in combination with a mold for forming the tip, substantially as specified.

Fourth, the arrangement of the gears *s t* and *r*, in combination with the worm *q*, shaft *t'*, and ratchet wheel *s'*, as set forth.

Fifth, the ratchet wheel *s'* and its pawl 8, constructed as set forth, in combination with the gearing *s t* and *r* and rollers *d e* and *p*, as set forth.

Sixth, the moving section 11 and tip mold or die fitted and operating substantially as and for the purposes set forth.

**71,533.**—ENOCH PRIMM, Petersburg, Ill.—*Cider Press*.—November 26, 1867.—The follower is at the bottom of a sliding frame whose head block has a series of sheaves around which, and a series of sheaves in the main frame, the compressing rope is coiled. The rope is operated by a windlass. The follower is raised by a similar device of a smaller power.

*Claim.*—The combination of pulley wheels C and D, G and H, arranged as set forth, in combination with sliding frame A, fixed frame B, gear wheels F and O, drum K, crank *l*, spring N, spring catch P, and ropes E I, all arranged in manner and for the purposes substantially as described.

**71,534.**—REINHARD SCHADE, New York, N. Y.—*Door Lock*.—November 26, 1867.—Several tumblers have each three slots and a passage way from one slot to the other, and each have differently formed lower edges. The lug of a bolt works in the slots. The tumblers are kept in position by springs. A double bit key is used.

*Claim.*—The combination of the tumblers D, each provided with three slots *d e f* and passage way *g h*, double bit key C, bolt B *a*, lug *e*, and springs E, or equivalents therefor, the whole arranged and operating substantially as and for the purpose herein specified.

**71,535.**—C. PURDY, Bedford, Ohio.—*Loose Pulley Box*.—November 26, 1867.—A cylinder is placed in the hub of the wheel and has an inside annular groove near each end to catch the drip; from these grooves the oil passes through holes to the annular oil chamber surrounding the cylinder, and from the oil chamber it passes through other holes to the journals.

*Claim.*—The cylinder B provided with annular grooves *h h* and openings *e e*, which lead into the chamber I, constructed as described, and having wicking *a a*, the whole constructed and operating in the manner and for the purposes described.

**71,536.**—THOMAS H. QUICK, New York, N. Y.—*Purifying Bone Black*.—November 26, 1867.—Im-



provement on his patent May 15, 1866. The coal falls from one to the other of the spirally placed spouts around the side of the cylinder so as to avoid crossing the main current of the blast.

*Claim.*—First, the flue B provided with separate shelves or spouts *c* arranged spirally round the interior thereof for operation in connection with a suitable feed or distributor and escape or dust pipe, substantially as specified.

Second, the combination of the cap D having channel ways *b* with the shelves *c* of the flue B arranged relatively to each other for operating together, as herein set forth.

**71,537.**—TOBIAS ROYER, Lancaster, Pa.—*Burglar Alarm.*—November 26, 1867.—The alarm cords are connected to levers, by which fingers are moved to indicate the part of the building where entrance is attempted.

*Claim.*—First, the arrangement and combination of the hook lever J, cross lever R, and notched stop wheel I, in the manner and for the purpose specified.

Second, in combination with the levers J R, also the short levers or arms 1', 2', 3', 4', &c., connected with the covering plates I, II, III, IV, &c., together with the combined cords or wires 1' r 2' r 3' r 4' r, &c., arranged in the manner and for the purpose set forth.

Third, the combined segment-rubber L, with its attached pulley K, provided with an arm W and weighted strap *k k'*, in combination with the spring jaw match holder N n Q and bent wire P, arranged in the manner and for the purpose described.

Fourth, the combined arrangement of the hook lever J, notched wheel I, double ratchet wheel G F, with its spring pawl, hammer and bell connection, all arranged and operated substantially in the manner and for the purpose specified.

**71,538.**—EDWIN RUSSELL, Naugatuck, Conn.—*Lamp Chimney Fastening.*—November 26, 1867.—The chimney foot has a circumferential groove, which is engaged by a fixed and sliding hook to retain the foot in its step socket.

*Claim.*—First, the annular groove *a*, formed upon or attached to the base of the chimney, substantially as described.

Second, the rotating hook *s*, constructed and arranged to operate so as to secure the chimney to the lamp top, substantially as described.

**71,539.**—JACOB RUSSELL, Brooklyn, N. Y., assignor to himself and SAMUEL MOFFATT, Albany, N. Y.—*Husking Machine.*—November 26, 1867.—As the stalks are fed between the feed rollers, the cutters on the lower roller sever the ear from the stalk. The ear is turned into a longitudinal direction by the grooves of the slide, and the ribs of the rotating rolls strip the husks from the ear.

*Claim.*—First, the hollow metallic roller frame *m*, formed with a gear wheel *c'* and recessed for the reception of the filling, substantially as and for the purpose specified.

Second, the elastic filling *r*, in combination with the roller frame, substantially as and for the purpose specified.

Third, the scraper or scrapers A', arranged above and in relation to a pair or pairs of husking rolls B, constructed substantially as and for the purpose specified.

Fourth, the combination of the guide *c*, having spurs or extensions *c\**, with the husking rolls B, substantially as and for the purpose specified.

Fifth, the elastic ejecting roll C\*, arranged transversely above and in combination with the husking rolls B, substantially as and for the purpose specified.

**71,540.**—M. M. RUTT and A. B. BAER, East Hempfield, Pa.—*Corn and Seed Planter.*—November 26, 1867.—The hopper has three compartments. An oscillating disk at its bottom acts to drop alternately corn, and corn and pumpkins, or some other seed.

*Claim.*—First, the arrangement of an oscillating disk C, with its exerted ears and arms *a*, operating in a hopper provided with several compartments, in the manner and for the purpose specified.

Second, in combination with the disk C and its arm *a*, the connecting rod L, with the arm or rod

M, actuated by the grooved cam H, all arranged and operating substantially in the manner specified, the use of the spouts K and appliances shown and specified.

**71,541.**—EDGAR F. SHAW, Boston, Mass.—*Temple for Looms.*—November 26, 1867.—Explained by the claims and illustration.

*Claim.*—First, a temple, consisting of two tapering rolls, arranged relatively to each other and to the web, substantially as herein shown and described.

Second, the combination of the taper rolls D D with the bar or beam of the temple, constructed in two parts, for support and adjustment of the rolls, or one of them, relatively to the other, essentially as specified.

Third, the combination of the taper rolls D D, arms or brackets C C', temple beam, made up of a stationary part A and movable portion B, hinged as at *a* and made capable of adjustment or separation, as a loose jaw, by means of a screw E, or its equivalent, substantially as and for the purposes herein set forth.

**71,542.**—JACOB SHOEMAKER, Oakland, Pa.—*Valve for Steam Engines.*—November 26, 1867.—The induction and exhaust pipes are in a direct line, and communicate with cylindrical valves, by whose oscillation the steam is directed.

*Claim.*—The arrangement of the induction pipe B and the eduction pipe F with reference to the valve seat C, valve D and ports E, when constructed substantially in the manner set forth.

**71,543.**—THOMAS SILLIMAN, Three Rivers, Mich.—*Animal Trap.*—November 26, 1867.—The door is pivoted at its midlength and is so connected as to give a half turn when an animal is mounted upon it.

*Claim.*—First, the combination with the revolving table of the bait lever, the holding spring D, and the friction roller F, when all these parts are constructed and arranged as described for joint operation.

Second, the combination of the table, the bait lever, and the holding spring with the balanced stop lever C, constructed, arranged, and operating as described.

Third, the combination of the revolving table, the bait lever, the holding spring, and the balanced stop lever with the box A, the passage G, the swinging door *h*, the cage H, and the tipping floor K, when all these parts are constructed and arranged as described for joint operation.

**71,544.**—AMOR SMITH, Cincinnati, Ohio.—*Machine for Cutting and Grinding Animal Matter.*—November 26, 1867.—The circumferential angular-faced ribs interlock, and have corners upon the ribs to draw the matter between them as they rotate toward each other at the top. They are intended to grind animal matter for fertilizing purposes.

*Claim.*—First, the combination of two metallic rollers with interlocking ribs square upon their edges, arranged for use substantially in the manner and for the purpose set forth.

Second, the mode of feeding the animal matter to the shearing rib, by means of notches B<sup>2</sup> on the periphery of the ribs, substantially as set forth.

**71,545.**—AMOR SMITH, Cincinnati, Ohio.—*Cutting Machine for Reducing Cracklings, &c.*—November 26, 1867.—The mass is forwarded by a sliding block which is attached to ropes whose ends are wound around a windlass. The matter is brought in contact with the disk which has volute series of cutter projections.

*Claim.*—The combination of the wheel A, with cutters C, box B, and compressing head F, substantially as and for the purpose set forth.

**71,546.**—T. S. SMITH, New Haven, Conn.—*Ball Caster.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—The seat A, constructed with a recess B, so as to form an angular recess, said recess forming a single bearing point on the top, and two driving points *a* near the top of the ball, as set forth.

**71,547.**—WM. M. STEVENSON, Sharon, Pa.—*Steam Cut-off Valve.*—November 26, 1867.—The cylindrical valve is oscillated and the rectangular valve



reciprocated by eccentric rods. The steam is injected through the body of the valve and exhausted between it and the sides of the valve chest when a rectangular valve is used.

*Claim.*—The arrangement of the valve boxes A and B, boxes C C, and the eccentrics *m* and *s*, with their rods *t* and *h*, the whole constructed and operating as herein specified.

**71,548.**—JOSEPH B. STOCKTON, Edmonton, Ky.—*Tobacco Pipe.*—November 26, 1867.—The pipe has a pendent stem running down loosely into a sleeve. The annular space between the stem and sleeve gives passage to the smoke and communicates with the mouth piece.

*Claim.*—A smoking pipe, constructed, arranged, and operated in the manner as shown and described and for the purpose set forth.

**71,549.**—HARRIET E. TAYLOR, Saratoga Springs, N. Y., executrix of the estate of THEODORE H. TAYLOR, deceased.—*Medicine.*—November 26, 1867.—For treatment of liver complaint and as an ordinary cathartic. Composed of powdered podophyllin, 10 parts; socotrine aloes, 24 parts; powdered colocynth, 12 parts; Jamaica ginger, 6 parts; cayenne pepper, 1 part; and powdered gum-gamboge, 6 parts.

*Claim.*—The pills composed of the ingredients herein set forth, in about the proportions specified.

**71,550.**—VIRGIL C. TAYLOR, Des Moines, Iowa.—*Music Staff.*—November 26, 1867.—The key note is indicated to the eye by making the line on which it falls lighter; or if it falls on a space, by making the space wider or narrower.

*Claim.*—The method of indicating the key note in music, substantially as set forth.

**71,551.**—SIMEON TERRY, Boscawen, N. H.—*Corn Skeller.*—November 26, 1867.—The horizontal serrated cylinder is adjustable in distance from the serrated concave, which is made in sections hinged at midlength to their backing. The concave is adjustable by set screws.

*Claim.*—In combination with box A as constructed, the adjustable apron block B, (by the screws E E,) the apron B', with its metal staves *a'*, secured upon the raised point *e*, arranged and operating with the cylinder C, in the manner and for the purposes set forth.

**71,552.**—EDWARD THOMPSON, Hokah, Minn.—*Dumping Car.*—November 26, 1867.—A device similar to a snow plow is drawn along the top of a train of dirt cars.

*Claim.*—First, the method of unloading cars, substantially as described.

Second, the use of a scraper, substantially such as described, when arranged to operate in connection with railway cars, for the purpose of removing therefrom the gravel, earth, sand, or similar material with which they may be loaded, substantially as herein set forth.

**71,553.**—EDWARD THOMPSON, Hokah, Minn.—*Apparatus for Constructing Railroads.*—November 26, 1867.—The scrapers are operated by anchored blocks and lines which are drawn by a steam engine arranged to run on a railway track. The scrapers are attached together, making the line continuous, so that the forward movement of one scraper causes the return of the other.

*Claim.*—First, operating the scrapers by means of lines and blocks, substantially as described, for the purpose of moving earth, gravel, and similar material, as described.

Second, the platform, constructed and arranged to operate in connection with scrapers, as and for the purposes set forth.

**71,554.**—LOUIS F. VAN DE WIELE, Brooklyn, N. Y.—*Clamp Strap for School Books.*—November 26, 1867.—The strap has sliding angle pieces which protect the edges of the books from the strap.

*Claim.*—The adjustable angular plates B, in combination with the strap A, substantially as and for the purpose specified.

**71,555.**—URIAH B. WADDLE, Cleveland, Ohio.—*Feather Renovator.*—November 26, 1867.—The feathers are placed in the fixed cylinder and thrown up by the rotating stirrer. Steam is admitted through the pipes, and the condensed steam and dirt flow off through the conductors which are arranged along the bottom of the case.

*Claim.*—First, the drying pipes I, arranged within a stationary cylinder or case A, in combination with the arms D and shaft C, when operated in the manner as and for the purpose set forth.

Second, the steam pipes K L, conductor P, provided with a screen Q, as arranged in combination with the case A, for the purpose and in the manner as set forth.

**71,556.**—MOSES P. WALTON, Marlboro', Ohio.—*Washing Machine.*—November 26, 1867.—The beater has radial arms with pendent pins, and is oscillated by connection of an arm on its vertical shaft with a crank shorter than the arm.

*Claim.*—The shaft I, with crank H and fly wheel J, and the connecting rod F, when used in connection with the crank D on shaft C of beater G, substantially in the manner and for the purpose herein specified.

**71,557.**—STEPHEN B. WARD, Auburn, Ind.—*Seeding Machine.*—November 26, 1867.—The plow standards are hinged so that the plows can be turned up from the ground. The fore ends of the harrows are connected to the plows and their rear ends supported on links, so that the harrows are raised with the plows. The seed slides are operated by cam projections on the tread of the supporting wheels. The cam projections act as markers for the hills.

*Claim.*—First, the combination of the seed slide K with roller L and the wheel A, the latter being constructed with spurs to perform the double function of actuating the seeding mechanism and marking hills, substantially as set forth.

Second, the combination of the wheel A with spurs A' and scrapers C, arranged as set forth.

Third, the combination of the seeding mechanism and the adjustable plows, harrows, and covering flanges, substantially as set forth.

Fourth, the combination and arrangement of the harrows G''', straps G'' and hinged standards F, and lever F'', arranged to operate substantially as set forth.

**71,558.**—W. H. WARD, Auburn, N. Y.—*Railway Car Apron, or Duster and Bridge.*—November 26, 1867.—The bridge is laid from platform to platform of coupled cars and has cross-bars to engage the supports of the hand rail.

*Claim.*—First, the adjustable apron or duster, when constructed and arranged as and for the purposes herein set forth.

Second, the combination of said duster or apron with the bridge or crossing B, in the manner and for the purpose herein described.

**71,559.**—W. Y. WARNER, Wilmington, Del.—*Car Coupling.*—November 26, 1867.—Explained by the claim and illustration.

*Claim.*—The link F, balanced or nearly balanced by the chain *b*, or its equivalent, and arranged to slide on the coupling bolt E, all substantially as set forth.

**71,560.**—GEORGE WATT, Richmond, Va.—*Plow.*—November 26, 1867.—The standard is curved at the throat to cast aside trash. The ground bar has a staple passing through a slot in the standard thereto. The upper side of the mold board has an extension piece.

*Claim.*—First, a plow frame or casting A, having a neck or breast *a*, constructed substantially as herein described, and serving to prevent the accumulation of trash, &c., between the cutting edge and the beam.

Second, the brace rod J, reflexed at both ends, as described, and employed in conjunction with the staples *j'* *b*<sup>1</sup> and key *b*<sup>2</sup>, to connect the frame A and mold board B, substantially as set forth.

Third, the combination, with the slide or landside bar D, of the hook-shaped projection *d*, staple *d*<sup>1</sup>, key *d*<sup>2</sup>, and notches *a*<sup>5</sup>, for adjustably securing said slide to the frame A, as set forth.



Fourth, the combination with the frame or casting A of the handles G G, when attached by the bolts g g', substantially as described.

Fifth, the removable extension piece F, applied substantially as and for the purpose set forth.

**71,561.**—CHARLES A. WAY, Charlestown, N. H.—*Velocipede*.—November 26, 1867.—The ground wheels are attached to crank shafts operated by hand. The steering is performed by an oscillatable treadle connected by crossed ropes to the steering wheel at the rear.

*Claim.*—First, the arrangement of the cranks d and short axles c with reference to each other and with the seat e, side rails b, and supporting wheels B, substantially as and for the purpose specified.

Second, the cords s, crossing each other, and arranged to operate the guiding caster g, substantially as and for the purpose specified.

Third, the center rails a, arranged with their forward portions lower than the corresponding parts of the side rails b, substantially as and for the purpose specified.

Fourth, the arrangement of the braces f, in relation with the side rails b and center rails a, substantially as and for the purpose specified.

**71,562.**—CHARLES A. WAY, Charlestown, N. H.—*Velocipede*.—November 26, 1867.—The two motive wheels are turned by hand and the steering wheel at the rear is connected by cords to a lever operated by the feet.

*Claim.*—First, the two driving wheels, furnished with the crank wrists or handles arranged in relation with the main frame and seat, substantially as and for the purpose specified.

Second, the lever r, bar m, and cords f, arranged in relation with each other and with the arms e of the arbor of the caster wheel, substantially as and for the purpose specified.

**71,563.**—JOHN WERTZ, Bourbon, Ind.—*Spring Seat for Carriages*.—November 26, 1867.—The seat has diagonal springs, which may be of wood, and are secured by cross-bars at their intersections. The ends of the springs have some play in their attachment to the seat and the side pieces, by whose hooks the seat is secured to the sides of the box.

*Claim.*—First, the springs B C, in combination with the blocks D, cross-bars E E, and bolt e, as and for the purpose explained.

Second, the springs B C, blocks D, cross-bars E E, and bolt e, in combination with seat A and sockets a, in the manner and for the purpose described.

Third, the springs C, with piece e, in combination with cross-piece F, with socket f, step f', and bar f'', substantially as described.

Fourth, the springs B C, blocks D, cross-bars E E, bolt e, seat A, sockets a, cross-pieces F F, and hooks G, when combined and arranged substantially as set forth.

**71,564.**—MERRETT L. WOOD, Ithaca, N. Y., assignor to himself, SAMUEL PORTER, and L. M. MONROE.—*Telegraph Insulator*.—November 26, 1867.—The wooden post has a cylindrical end to enter the iron cap and is secured therein by a wedge, which is forced into the wood by its insertion into the cap. The cap has an inverted frusto-conical top and a flaring base, which serves to conduct rain from the portion of the post, having a shoulder with an annular groove on its top to contain paraffine.

*Claim.*—In combination with the conical-shaped iron insulator A, the wedge H, inserted in the top of the standard or support, in the manner and for the purpose as set forth.

Also, the groove N around the standard F, for holding paraffine or other suitable material, for the purpose set forth.

**71,565.**—D. B. WOODWORTH, Cincinnati, Ohio.—*Manufacture of Teapots*.—November 26, 1867.—The refractory base is attached to the depression in the bottom of the fusible vessel, so that a small quantity of liquid in the latter will prevent melting of the solder.

*Claim.*—A fusible metal pot-body A, having the shallow pit or depression B, and an annular foot D of non-fusible metal, brazed or soldered within the

receding angle C of the pit, at or near the plane of the latter, and wholly external to said body, as and for the purpose set forth.

**71,566.**—J. B. ALEXANDER, Washington, D. C.—*Lamp*.—December 3, 1867.—Improvement on his patent, April 23, 1867. The wick is held in a plate with turned edges and moved in the wick tube by beveled friction collars attached to a single axle and acting from one side.

*Claim.*—The single plate A, with the turned edges C and C', and the bent stop-piece D, in combination with the wick tube B, the notches E and E', the beveled friction collars G and G', the axle F, the spring S and S' and the burner I, substantially as described and for the purpose set forth.

Also, the notches E and E' in the edges of the wick tube B, substantially as described and for the purpose set forth.

Also, the beveled friction-collars G and G', in combination with the axle F, the plate A, the wick-tube B, the spring S S', the notches E and E', and the slots K and K', when arranged together and with regard to the adjustment of wicks in oil-burning lamps.

**71,567.**—A. E. BARNARD, Akron, Ohio.—*Die for Swaging and Forming Bunter Shapes*.—December 3, 1867.—The swages have the proper angles and curves for shaping the iron and are made to fit each other with the bunter iron placed between them. They are operated on by a power-hammer.

*Claim.*—The herein described swages for forging bunting irons or shapes, when the same are operated by a tilting or power-hammer in the manner substantially as set forth.

**71,568.**—AUGUST BASSE, Quincy, Ill.—*Machine for Carving Wood*.—December 3, 1867.—The motion is conveyed from the tracer to the cutter by slotted levers connected by links adjustable to the required proportions of the figure. The coupling connects the cutter shaft to the traverse rod, the spring that enforces the connection preventing clattering.

*Claim.*—Conveying the motion from the tracer to the cutter by means of the slotted levers Q<sup>3</sup> and R<sup>1</sup>, and link R, which may be adjusted to cut the figure carved the same height of the pattern, or either higher or lower than the pattern.

Also, constructing the coupling P<sup>2</sup> with a spring to press the cutter-shaft against the traverse rod, substantially as described for the purposes set forth.

Also, constructing the couplings Q<sup>1</sup> and S<sup>2</sup> with clamping-nuts, as described, so that when the tracer and cutter are set or adjusted, the nuts may be clamped upon the screws to prevent them from turning.

**71,569.**—JOHN A. BASSETT and OLIVER C. SMITH, Salem, Mass.—*Steam Blower*.—December 3, 1867.—The air is compressed by fans fastened to the rotating steam pipes. The rotation of the fans is produced by the reactive effect of the jets of steam. The injective force is imparted to the compressed air by the direct force of the steam jet.

*Claim.*—The arrangement of the several parts herein shown and described, or their equivalents, whereby is produced a blast of commingled air and steam, the air being previously compressed by the fans C and injected by the steam-jets D, the whole operating together in the manner and for the purpose as herein described and set forth.

**71,570.**—MIKEL BECK, Lake View, Ill.—*Washing Machine*.—December 3, 1867.—The pendant arms of the horizontal bar are rotated by the hand crank that is stayed by the projecting bar on the crank shaft.

*Claim.*—The gear, consisting of the grooved plate A, pin or shaft B, provided with plate b and rollers d d, in combination with the lid or cover F of the box, the whole arranged and operating substantially as herein set forth.

The spider C, provided with pins G G, in combination with the above-described gear, substantially as set forth.

**71,571.**—DÉSIRÉ BIEVEZ, Haine St. Pierre, Belgium.—*Oven for Cooling Window Glass*.—December 3, 1867.—The oven is placed beside the ordinary spreading furnace with which it communicates and



from which the glass to be cooled is introduced on a movable table into the oven. At the side of the oven and behind the spreading furnace is a small furnace the heat from which circulates under the bed of the oven and keeps it at the required temperature.

*Claim.*—The lifting frame, constructed, arranged, and operating substantially as and for the purpose herein specified.

Also, the movable longitudinal bars, for moving the glass sheets or plates along, substantially as herein set forth, in combination with the lifting-frames.

Also, the grooved oven-bed, for the reception of the transverse bars of the lifting-frame, and the longitudinal moving-bars, substantially as herein specified.

**71,572.**—ORSON BILLINGS, Lagrange, Ohio, assignor to himself, RUSSELL H. PENFIELD and HOMER PENFIELD.—*Corn Planter.*—December 3, 1867; antedated November 29, 1867.—The flanges protect the jaws from accumulating dirt. The jaws are closed by elastic bands, and when opened by pressure on the handles they discharge the seed.

*Claim.*—The blade A, with its flanges *a*, in combination with blade B, having flanges *f* and spring D, substantially as described and set forth.

**71,573.**—W. R. BOERNER, Chicago, Ill., assignor to himself and CARL R. BOERNER.—*Wire Figure.*—December 3, 1867.—The wire which forms the skeleton skirt serves also as the support of the show figure.

*Claim.*—First, a wire figure composed of the removable waist and lower part without a central support or pedestal, substantially as and for the purposes set forth.

Second, the removable waist D, provided with the wire A, in combination with the lower part F, provided with the strong metallie hoops B and E, as and for the purposes specified.

**71,574.**—P. E. BOMBOY, Espy, Pa.—*Carriage Spring.*—December 3, 1867.—The spiral springs act in conjunction with the flat springs to add to the flexibility of the attachment.

*Claim.*—In the construction of springs for carriages and other like purposes, the combination of the spiral springs B with the flat springs C, one end of the latter being connected to the axletree, the other to the shaft, substantially as and for the purpose described.

**71,575.**—L. L. BOND, Chicago, Ill.—*Horse Hay Fork.*—December 3, 1867; antedated November 15, 1867.—The pivoted prongs of the harpoon fork are held in position for entering the hay, and are projected laterally for retaining their hold by their operating lever.

*Claim.*—The prongs E, pivoted to the bar B and connected by links K to the bar A, in combination with the lever D pivoted to the bar A, connected by link *c* to the bar B, when said parts are arranged for joint operation, substantially as herein described.

**71,576.**—FERDINAND T. L. BOYLE, New York, N. Y.—*Runner for Wheeled Vehicles.*—December 3, 1867.—Explained by the claims and illustration.

*Claim.*—First, connecting a runner to the wheel of any vehicle by means of a central clamp or fastening, embracing the bottom of the wheel, and perpendicular under the center of the wheel or its axle, and of a front and rear brace, located substantially as described, extending from the runner to the wheel and inclined inwards toward the axle, substantially as and for the purposes set forth.

Second, in combination with such a runner so constructed the arrangement of the flexible chain *d* and tightening screw *f*, and of the movable braces *g g* and brace rod *o*, either separately or in combination, for binding and holding the wheel securely to the runner, for the purposes set forth.

Third, in combination with such runner the construction and arrangement of the hinged brace *g*, and brace rod *j'* and chain clamps, as shown in Figs. 18 and 19, substantially as and for the purposes set forth.

Fourth, in combination with such a runner the arrangement of the fixed clamps and braces B B<sup>1</sup> B<sup>2</sup>, Plate II, and the cross pieces E, for securing the wheel and runner together.

Fifth, in combination with such runner the arrangement of the adjustable bed plate or bolster

D, or its equivalent, to adapt the length of the front and rear braces to wheels of different diameters, for the purposes set forth.

Sixth, the construction of the bed plate K for taking the wheel, having a surface formed of a single concave, or by the intersection of two concaves, as described, so as to secure two or more distinct and independent points of bearing or contact for the wheels, for the purposes set forth.

Seventh, in combination with such a runner the use and arrangement of the braces *l m m'*, for connecting the runner and axle, to protect the runner against side thrust or strain.

Eighth, forming the side braces *m m'* or H' H' with a hook or shoulder at either or both ends, substantially as shown in Figs. 4, 6, 7, Plate II, for the purposes set forth.

**71,577.**—W. F. BROWN, Washington, D. C., and J. N. SMITH, Jersey City, N. J.—*Hay Raker and Loader.*—December 3, 1867; antedated November 28, 1867.—The rotating teeth elevate the hay onto the carrier, which discharges it onto the load.

*Claim.*—The conveying passage, inclosed between the slats L L and I I, and narrowing in the upper portion thereof, in combination with the gathering rake teeth G G and the elevating teeth H H, revolving with the driving wheels, whether the under slats I I are fixed or revolve in that portion encircling the axle, substantially as and for the purpose herein specified.

**71,578.**—WILLIAM H. CAPEWELL, Westville, N. J.—*Glass Maker's Pot.*—December 3, 1867.—The pot sets within a cup, which protects it from sudden cooling by the accession of cold air when the furnace door is opened.

*Claim.*—Inclosing the waist *a* and bottom of the pot A within a cup B, when constructed and arranged as and for the purpose herein specified and described.

**71,579.**—SAMUEL CARPENTER, Brookfield, Ill.—*Horse Rake.*—December 3, 1867.—The hay is gathered and drawn on the rocker teeth, and is retained by the rear frame and double draft bars at the sides.

*Claim.*—The combination of the bars A B, up-rights *a*, teeth F, arms C C and connecting bars D D, provided with a series of holes *e*, all arranged and operating substantially in the manner and for the purposes specified and set forth.

**71,580.**—EDWARD L. CAUM, Patterson, Pa.—*Buffer and Draw Bar for Railroad Cars.*—December 3, 1867.—The draw heads at the different ends of the car are connected by sliding rods, and the draw bars pass through the sliding plates to which these rods are attached, and are attached to other sliding plates. Between these two plates are spiral springs surrounding the draw bars. These plates have limited movement in their slide grooves.

*Claim.*—The combination of the yielding bumpers D D with the sliding rods A A, when said rods are connected by the plates C C, and employed in connection with the plates F F and bolts or draw bars E E, and adjusted within the car frame, and arranged to operate substantially as and for the purpose set forth.

**71,581.**—NORMAN CHAPPELL, Lima, N. Y., assignor to HENRY E. CHAPPELL, same place.—*Cultivator Teeth.*—December 3, 1867.—The hinged plate and trailing fingers travel in the rear of the share and pulverize the ground.

*Claim.*—First, the arrangement in cultivator teeth of the plate P and shares *w*, substantially in the manner and for the purposes herein shown and described.

Second, the combination of the shares *w* and separators *s*, substantially in the manner herein described and for the purposes set forth.

**71,582.**—ISAAC COOK, Philadelphia, Pa.—*Cow Milking Machine.*—December 3, 1867.—An oscillating motion is given to the teat cups, and the air being exhausted from the pail the milk is discharged therein.

*Claim.*—First, an air pump, so combined with a milking machine that the milk will be drawn into the



receiver or bucket without passing into or through the said pump.

Second, giving a raising and lowering motion to the teat cups while milking, substantially for the purpose shown.

Third, a stop-cock, so combined with a cow milker and so arranged relative to the teat cups that the operation of milking may be discontinued on all the teats at one and the same time.

Fourth, beveling or thinning the upper ends of the teat cups either inside or outside, as shown and described.

**71,583.**—WILLIAM CRANAGE, Cleveland, Ohio.—*Roof Tile.*—December 3, 1867.—The tiles are rabbeted together on their sides, and have a lip projecting over the upper edge of the next course beneath.

*Claim.*—Tiles, constructed with offsets B C at the sides and ends, forming rabbeting joints, in laying said tile as specified, being a new article of manufacture.

**71,584.**—JAMES J. CRISPIN, Providence, R. I.—*Eye Glass.*—December 3, 1867.—The frames are united by a spring bow, which passes through clasps, also attached to the frames; springs in the clasps give resiliency to the attachment.

*Claim.*—The combination of a clasp C, spring A, and frame B, substantially as described.

Also, the combination of the spring A, spiral spring E, and frame B, substantially as described.

**71,585.**—HIRAM CURTIS, New York, N. Y., assignor to EDWARD P. CURTIS and STEPHEN D. LAW.—*Manufacture of Paint.*—December 3, 1867; antedated November 15, 1867.—The marble is ground, washed in water, dried, mixed with carbonates of lead and zinc, ground in oil, thinned, and applied by a brush.

*Claim.*—First, subjecting marble dust or finely-pulverized marble, when used in the composition or manufacture of paint and for similar purposes, to the action of water, substantially as and for the purposes set forth.

Second, the use of marble dust, when so treated or prepared, in the manufacture of kalsomine or covering for walls, ceilings, &c.

**71,586.**—JONAS P. CURTISS, New Britain, Conn.—*Device for Grinding Cutlery.*—December 3, 1867.—The rest frame is secured immediately above or to one side of the stone, and pivoted levers and set screws retain the cutlery in position while grinding.

*Claim.*—A device for forming and finishing the edges of knives, &c., substantially as described.

**71,587.**—WILLIAM DAMEREL, Brooklyn, N. Y.—*Building.*—December 3, 1867.—The wall is covered by representations of stone and brick work, preserving it from the action of the weather and improving its appearance.

*Claim.*—First, the combination in a face wall of a lap joint with beveled articulations, substantially as described.

Second, in a face wall the combination with the beveled joint at the top of flange c of the rounded joint on the outer side of the wall, substantially as shown.

Third, the combination with the beveled joint on the top of flange c of the square outer joint, shown on the upper block in Fig. 2, substantially as described.

**71,588.**—JOHN C. DELL, Philadelphia, Pa.—*Scale.*—December 3, 1867.—One graduated beam is connected to both the platform and scoop, so that the weight of articles placed on either is indicated on the beam without the necessity of adjusting any part of the scale.

*Claim.*—A graduated beam B, connected to levers supporting a platform L, in combination with a lever F, which supports a "scoop" N, and which is connected to the beam B, the whole being constructed and operating substantially as and for the purpose described.

**71,589.**—JAY DENSMORE, Holley, N. Y., assignor to L. A. DENSMORE and HIRAM CURTIS.—*Rotating Tooth Cultivator.*—December 3, 1867.—The rotating tooth wheels are presented obliquely in different di-

rections, pulverizing the ground by their rotary motion.

*Claim.*—First, a rotating cultivator tooth, consisting of any number of teeth, attached to a hub or common center, around which they are free to revolve, and set at an angle to the draft, substantially as described.

Second, the combination and arrangement with a rotating cultivator tooth of the standard S, the pin P, the bush o, the washer i, and the keys l and n, substantially as set forth and described.

Third, the combination and arrangement with a rotating tooth cultivator of the frame B, the shaft G, the cranks F, the wheels A A, the lever L, the pin 3, the cross-bar N, and the holes 4 4 4 4 4 4, substantially as set forth and described.

Fourth, the combination and arrangement with a rotating tooth cultivator of the pole M, the guides K and I, the pin t, the holes 2 2 2 2 2 2, the driver's seat C, and the spring E, substantially as set forth and described.

**71,590.**—R. DE ROODE, Lexington, Ky.—*Conductor's Ticket Book.*—December 3, 1867.—The conductor's book contains a complete index of the transactions along the road. The destruction of the once used tickets by the passengers is induced by the sealing of a small coin within the ticket.

*Claim.*—First, a conductor's ticket book, provided with two series of leaves and corresponding indices, for the places of departure and destination, respectively, substantially as set forth.

Second, a passenger's ticket, having a piece of money so secured within it as to be removable only by the destruction of the ticket, substantially as and for the purpose set forth.

**71,591.**—W. H. DUNHAM and JAMES WIDNEY, Allegheny City, Pa.—*Car Brake.*—December 3, 1867.—The brake blocks are attached to pivoted levers, which are actuated by chains. The chains are attached to one of each series of two levers belonging to the wheels on one axle, and pass around an anti-friction roller upon the other lever, so as to draw them together and apply the brakes. The chains from each truck are coiled around a drum whose actuating lever is connected to a similar lever on the other truck, and one of them to the operative hand wheel of the brakes.

*Claim.*—First, the arrangement of the levers C and C', pivoted to the hangers h, and made operative through the medium of the chains 6, pulley o, lever x, and rods 3 and 4, and made inoperative by means of the springs 12, the whole constructed, arranged, and operating in the manner herein described and for the purpose set forth.

Second, in combination with the above the rubber B' and support A', pivoted to the levers C and C', the whole being constructed, arranged, and operating in the manner herein described and for the purpose set forth.

**71,592.**—JAMES B. EADS, St. Louis, Mo.—*Loading Ordnance.*—December 3, 1867.—The ball is placed in a cradle upon a telescopic stem, which is extended by internal steam pressure. As it rises the yoke on the cradle catches below the muzzle of the gun, the front stop is depressed, the pivoted cradle tilted, and the ball rolls into the bore of the gun.

*Claim.*—First, the combination of a gun-carriage A C with a shot lifter, composed of one or more steam cylinders and a shot platform E, the whole to be operated and employed in the manner shown and described.

Second, the shot platform when composed of a fixed bed piece E and a hinged or tipping piece E', for the purpose of disengaging the shot from the platform in the manner shown and described.

**71,593.**—KASPAR EBERMEYR, Ellwangen, Germany, assignor to MAX RIEDERER, New York, N. Y.—*Melodeon.*—December 3, 1867.—Each key is connected to a bellows, which sounds the appropriate note. Foot bellows are dispensed with, and the required expression is given by the force applied in touching the key.

*Claim.*—So combining the keys, the bellows, and reeds or pipes of a musical wind instrument, that by the act of depressing the keys the appropriate bel-



lows are put in operation, and the required wind is created to produce the sound of the appropriate reeds or pipes, substantially as shown and described.

**71,594.**—J. E. EMERSON, Trenton, N. J.—*Attaching Handles to Cross-cut Saws.*—December 3, 1867.—The socket shank is secured to the saw blade by the wedge bolt, which passes through the slots of the shank and blade, and is secured by a thumb nut.

*Claim.*—The use of a wedge-shaped or wedging bolt for securing a removable and replaceable handle to a saw, so that it will not only hold laterally but force the saw endwise against a bearing to give it an end support, substantially as described.

**71,595.**—THOMAS EVANS, Newark, N. J.—*Drafting Instrument.*—December 3, 1867.—The sliding bar moves along one arm of the graduated square. The straight edge is clamped to the bar by a set screw. The relative positions are adjusted by the set screws in the elongated slots of the bar and straight edge.

*Claim.*—First, the combination of the scale rules *b* and *g* with the square *a*, made adjustable thereon, substantially as set forth.

Second, the arm *c* in combination with the slotted straight edge *b*, each being provided with a point *d*, and made adjustable with relation to each other, substantially as and for the purpose set forth.

**71,596.**—BENJAMIN W. FELTON, Roxbury, Mass.—*Car Replacer.*—December 3, 1867.—In using the replacer to direct a car wheel upon its track, the longer of the two sides of the lower projection is to be placed against the edge of the rail, so that the flange of the wheel runs into the upper sloping channel.

*Claim.*—Improvement or duplex car replacer, that is, as made with the two triangular projections *A* *B* and channels *a* *a*, arranged on opposite sides of the plate, and with respect to one another, substantially as set forth.

**71,597.**—SAMUEL FIELDS, Bridgeport, Ohio.—*Roofing Compound.*—December 3, 1867.—Composed of coal tar, 1 barrel, and equal parts ground fire clay, silicate of iron and silicate of magnesia; to give the required consistency, add linseed oil and litharge.

*Claim.*—The roofing compound, consisting of the above named ingredients, substantially as described.

**71,598.**—ALFRED D. FOX, Oil City, Pa.—*Railroad Jack.*—December 3, 1867.—The head is supported on a tripod with spreading legs, and the lifting screw has a swiveled hook to catch under the rail.

*Claim.*—The combination with the lifting screw carrying the swivelling hook which grasps the rail from beneath, of the nut or box mounted on the independent legs, when the several parts are constructed and arranged for joint operation, as and for the purpose described.

**71,599.**—C. L. FRINK, Rockville, Conn., assignor to E. H. ROBINSON, E. I. SMITH, and ROBERT L. FRAIR, same place.—*Device for Smoothing Cloth.*—December 3, 1867.—The cloth is damped and heated by passage over a trough inclosing a perforated steam pipe, and then beneath a hollow heated cylinder. The winding roller is journaled in a weighted frame, and the cloth is wound while under pressure between the said roller and the main cylinder.

*Claim.*—The movable bearing bars *c* for the roller *p*, applied substantially as specified, in combination with the main cylinder *b* and heated cylinder *e*, as and for the purposes set forth.

**71,600.**—C. FROENLICH, Philadelphia, Pa.—*Instrument for Cutting the Tip from Cigars Preparatory to Smoking.*—December 3, 1867.—The tip of the cigar being placed in the conical hole above the blade the latter is projected upward by the pivoted lever, cutting off the tip. The spring retires the blade.

*Claim.*—First, the within described instrument, consisting of a frame, constructed substantially as described, one or more conical openings *f* and *g*, knife *B*, and operating lever *D*, all being arranged and operating substantially as set forth.

Second, the combination of the above with the receiver *h*.

**71,601.**—C. C. GALE, Cleveland, Ohio.—*Railroad Time Indicator.*—December 3, 1867.—Upon the disks representing each station are the notices of arrival and departure at that place, which are successively brought into view at openings in the face, which is a map of the country. The different disks are so connected as to make the changes at other places simultaneously, each occupying its geographical place on the map.

*Claim.*—First, indicating automatically the arrival and departure of railroad trains, steamships, stages, &c., over or along the line or direction of said carriers, mapped out, showing the position of stations on the route, for the purpose substantially as set forth.

Second, the indicators *K* *J*, provided with curved arms *M*, in combination with the endless cord *G*, in the manner as and for the purpose specified.

Third, the application of the mechanical movements, when so arranged, in combination with the indicator *J* and operated by the same, as to signal by bells the arrival or departure of railroad trains, in the manner substantially as set forth.

**71,602.**—JOSEPH P. GALLAGHER, St. Louis, Mo.—*Stovepipe Thimble.*—December 3, 1867.—The thimble is automatically closed on the withdrawal of the pipe, and is opened by the act of placing the pipe therein. In combination with the thimble there are ventilating registers.

*Claim.*—The thimble plate *B*, provided with registers *b*, in combination with the self-acting stopper plate *B'* *L*, when the latter is arranged so as to be operated substantially in the manner as herein shown and described.

**71,603.**—JOEL G. GARRETSON and FRANKLIN D. CLARK, Buffalo, N. Y.—*Sash Stop.*—December 3, 1867; antedated November 19, 1867.—The two eccentric segments are geared together by teeth that mesh into each other so that when partially rotated on their axes in one direction their faces are forced simultaneously against the sash, holding it in position. When turned in the contrary direction, the sash is released.

*Claim.*—The eccentric segments *D* *E*, geared together, and self-operating, by means of the weighted portion *e* and lever *F*, arranged and operating substantially as and for the purposes set forth.

**71,604.**—BENJAMIN GARVIN and R. J. PETTIBONE, Oshkosh, Wis.—*Feed Water Heater for Locomotives.*—December 3, 1867.—A series of pipes are ranged in the smoke stack communicating with the double steam chamber. The water is heated by the exhaust steam before it enters the boiler.

*Claim.*—The combination of the pipes *E* *D* and *F* *F*, &c., steam chambers *B* *C*, arranged inside of a smoke-stack and over the collar *H*, substantially as and for the purpose herein specified.

**71,605.**—WILLIAM T. GILLINDER, Philadelphia, Pa., assignor to himself and EDWIN BENNETT, same place.—*Apparatus for Forming Threads on Sheet Metal Caps.*—December 3, 1867.—The cap is placed in the aperture in the center of the case so as to fit down on the screw plug, which has previously been inserted in the central aperture, where it is held down by the vertically-moving bar that is attached to the frame. When the dies close on the cap they produce the screw thread required thereon, and an opposite movement withdraws the dies.

*Claim.*—The apparatus, herein described, for swaging screw threads on sheet metal caps, substantially as set forth.

**71,606.**—THOMAS GREY, Clarence, N. Y., assignor to himself and HENRY LAPP, same place.—*Grinding Mill.*—December 3, 1867.—The corrugated curved plate is supported in heads or blocks, which are adjustable within slides in the main frame on which the plate is allowed to swing. The lower end of the plate is adjustable by a set screw.

*Claim.*—The corrugated plate *C* attached to the sliding journal bearings *c*, and adjusted by means of the set screws *d* *d'* and *F*, for the purpose and substantially as herein described.

**71,607.**—SAMUEL G. HADLEY, Cape Vincent, N. Y., assignor to himself, JAMES C. OWEN, and A. D. SHAW.—*Railroad Snow Plow.*—December 3, 1867.—



The plow is supported on an inclined plane on a truck, and its angle is adjustable. It has two nearly vertical cutters, which cut the sides of the track, and a middle one, which divides the snow, which is raised, moved laterally, and discharged on top of the snow bank at each side.

*Claim.*—First, a snow plow, having the two spirally-inclined chutes C, the spirally inclined division E, and sides D, when constructed and arranged for joint operation, as herein described.

Second, the construction and arrangement of the plow proper upon a secondary frame, in such a manner that the plow may be adjusted at varying inclinations, substantially as shown and described.

**71,608.**—DANIEL I. HALL, Dowagiac, Mich.—*Grubbing Machine.*—December 3, 1867.—The frame is chained to a stump, and another chain passes from its spool to another stump or stumps. As the lever and spool rotate the chain winds, the frame moves, and tips up the stump.

*Claim.*—The frame A, the uprights B B, cross-piece C, and the shaft I with its spool and lever handle, with the chains F and G, arranged and used as and for the purpose set forth.

**71,609.**—H. W. HARPER, Berlinsville, Pa.—*Machine for the Dressing Frames of Slates.*—December 3, 1867.—The several shafts being caused to rotate, and the spindles turned slowly, the slate frame in its rough, unfinished state is placed upon the table and passed beneath the feed pulley, the cutters of which plane the upper and lower surfaces of the frame simultaneously.

*Claim.*—The combination of the planing wheel F, cutter wheel G, finishing wheel H, and guide plate K, the whole being constructed and arranged for joint action on the slate frame, substantially as set forth.

**71,610.**—JOHN M. HARPER, Philadelphia, Pa., assignor to himself and A. COREY, same place.—*Device for Arranging Type in Rows.*—December 3, 1867.—The machine is intended to enable a type distributor to set the type in rows ready for introduction to the reservoir of a type-setting machine. The type slide consecutively down a chute into a groove, where they fall endwise into their places in line, a block sliding back in the groove as their numbers increase, and each type being pressed into its alignment by the surface of the eccentric.

*Claim.*—The within-described grooves for receiving the type, and the sliding blocks y, in combination with the eccentric roller D and the spouts E, or their equivalents, the whole being arranged and operating substantially as and for the purpose herein set forth.

**71,611.**—BENJAMIN J. HARRISON and JAMES CON-  
DIE, New York, N. Y.—*Folding Steps.*—December 3, 1867.—The lower section, having two steps, is pivoted to the main frame, and may be turned up and compactly inclosed within the latter.

*Claim.*—The folding steps, constructed in the manner and for the purposes specified.

**71,612.**—JOHN HASLETT, Jr., Allegheny City, Pa., assignor to himself, GEORGE W. FAHNESTOCK, and J. L. SCHWARTZ.—*Machine for Mixing and Feeding White Lead.*—December 3, 1867.—In the larger upper tank the revolving stirrers incorporate the carbonate of lead with water or oil, as the case may be; from thence it passes to a second vessel, where it is again stirred and delivered by a gate at a uniform rate to the grinder.

*Claim.*—First, the mixer, consisting of the tank C, the water pipe K, the discharge pipe V, with its gauged cock L; the revolving arms G G, having the perpendicular blades H H H H H H, &c., and the shaft E, all constructed substantially as and for the purpose set forth.

Second, combining with the mixer the feeder, having the revolving arms P P P and blades R R R, shaft S, the stationary blades O O O O, and the gauge cock L', constructed and operated substantially as and for the purpose set forth.

**71,613.**—WILLIAM H. HAWKINS, Cleveland, Ohio.—*Elastic Carriage Curtain Knob.*—December 3, 1867.—The two plates whose depressions form the circular button-hole are united by elastic strips and

spring apart to allow the passage of the head of the curtain knob.

*Claim.*—The adjustable plates A B and rubber springs C, or their equivalents, as arranged in combination with the curtain G, for the purpose and in the manner set forth.

**71,614.**—J. P. HAYNES, Bedford, N. H., assignor to himself and SAMUEL C. FORSAITH, Manchester, N. H.—*Head Block for Saw Mill.*—December 3, 1867.—The log is dogged on the adjusted carriage blocks and is set by oscillating the lever, the rests moving simultaneously. The index on the tape indicates the distance traveled.

*Claim.*—First, the arrangement of the ratchet bar P and finger k in connection with and for operating the knee D, all constructed and operating substantially as described and specified.

Second, the arrangement of tape measure m, index finger o, and spring n, mounted on the shafts O and N for registering the set of the log, all constructed and operating substantially as described and specified.

Third, the arrangement of the eccentric handle d, arm b, shaft c, and the pawls i and k for disconnecting the traversing gear so that the knees D are free to be moved in either direction, all constructed and operating substantially as described and specified.

**71,615.**—LYSANDER HILL, Alexandria, Va.—*Automatic Cleats for Sail-boats.*—December 3, 1867.—The two hinged cams hold the sheet while locked by the spring sliding bolts. On the withdrawal of the bolts the sheet is liberated.

*Claim.*—The combination of the pendulum P, sliding gauge R, chains I I, or their equivalents, levers L L, or their equivalents, spring stops S S, and cleats C C, substantially as and for the purposes set forth.

**71,616.**—L. HILLEBRAND, Philadelphia, Pa., assignor to himself, C. LIEBRICH, and D. WOLF, same place.—*Door Spring.*—December 3, 1867.—Explained by the claim and illustration.

*Claim.*—The wire spring H coiled round a rod secured to the frame of the door and terminating in an arm i bearing against the door when the center of the coil is in line with the hinges, all substantially as set forth.

**71,617.**—JAMES JOHN HOLDEN and SEALY JAMES BEST, London, England.—*Gas and other Retorts.*—December 3, 1867; patented in England October 31, 1866.—Instead of a single door for each retort a number of the latter communicate with a common chamber to which access is had by one door.

*Claim.*—The employment of a chamber at the mouths of retorts so disposed as to establish communication between two, three, or more retorts, such chamber having a door, by opening which access is afforded to such two, three, or more retorts at the same time, substantially as described.

**71,618.**—B. W. HUDSON, Allentown, Pa.—*Steam Slide Valve.*—December 3, 1867.—As the piston approaches the end of its stroke it impels (by means of customary connections with its rod) a tappet upon the valve rod and shifts the valve slightly to enable the live steam from the chest to pass into the further side of the exhaust port where it opens the valve, and the steam from the now full end of the cylinder rushes into the further side of the exhaust port and completes the stroke of the valve. The (temporary) exhaust port and the steam port are thus thrown open so as to reverse the piston and drive it to the other end, where the valve tappet being struck in the opposite direction, a corresponding action takes place through the other passage in the valve and its allied ports in and through the seat.

*Claim.*—First, the valve G having the exhaust passages K K' leading in reverse directions and on opposite sides of an oblique partition I, and discharging through the projection J into the exhaust port F, substantially as and for the purposes set forth.

Second, the construction of the ends 6 and 7 of the valve in relation to the side ports E and E' to permit steam from the chest to flash around them and through the valve, substantially as and for the purposes set forth.



**71,619.**—FLEURY HUOT, New York, N. Y., assignor to himself and JOHN ROGERS, same place.—*Treating Petroleum to Remove the More Volatile Portions.*—December 3, 1867; antedated November 15, 1867.—The more volatile portions of the oil are removed to diminish its explosive character. The oil is supplied to a rapidly rotating perforated vessel, from whence it passes to a surrounding air space and while in the form of spray is traversed by an air current.

*Claim.*—Subjecting petroleum and other oils to the action of air while such oil is in a finely comminuted or atomic condition, as and for the purposes set forth.

**71,620.**—RICHARD A. JACKSON, Lawrenceville, Pa.—*Converting Articles of Iron into Steel.*—December 3, 1867.—To pulverized charcoal, 95 parts, add a solution of 2 parts common soda, 1 part potash, and 2 parts rock salt. Place the iron in a converting furnace, cover it with the composition, seal up the furnace and apply heat.

*Claim.*—The use of the ingredients herein named when compounded and used in the manner and in about the proportions herein described, and for the purpose set forth.

**71,621.**—JAMES JENKINSON, Brooklyn, N. Y., assignor to DANIEL D. WINANT, same place.—*Chalk Holder for Billiard Cues.*—December 3, 1867.—The chalk holder is attached on the table so that the cue can be pressed against the chalk, which is backed by a spring that allows it to rotate on its spirally-grooved axis.

*Claim.*—First, a chalk holder, formed substantially as set forth, for chalking billiard cues and similar articles, when pressed against the chalk in said holder, as specified.

Second, the rod *d* and spiral spring, in combination with the chalk holder, for the purposes set forth.

Third, forming the chalk holder *b* with a screw ring *c*, to secure the chalk and guide the cue, as set forth.

**71,622.**—GEORGE JOHNSON and WILLIAM H. MILLIKEN, San Francisco, Cal.—*Faucet Attachment.*—December 3, 1867.—The supplemental pipe is screwed into the barrel of the faucet, and its passage through the can is tightened by the flange of the barrel on one side and the washer plates on the other.

*Claim.*—The faucet *A*, in combination with the supplemental pipe *B*, the plates *b b*, and washer *D*, all connected and arranged substantially as described and for the purposes set forth.

**71,623.**—J. P. JOHNSON, Macon, Ill.—*Cultivator.*—December 3, 1867.—The forked beams are loosely attached in the rear to the oscillating bars above and in front to the pendants attached to the oscillating doubletree, so as to give them a vibratory motion. The driver's feet on the stirrups adjust the position of the plows.

*Claim.*—First, the attachment of the forked plow beams *F F* to pendants *b b* by means of loose joints *c c*, and the employment, in combination therewith, of the standards *G G* and diagonal braces *G' G'*, steps *g g*, and driver's seat *D*, arranged and operating substantially as described.

Second, in combination with plow beams *F*, which are attached by loose connections at their forward ends, and sustained in position by diagonal braces *G' G'* and standards *G G*, the employment of suspending chains and stirrups for enabling the driver to raise and lower the plows, substantially as described.

**71,624.**—S. A. KENNEDY, Attleborough, and S. W. HOLT and J. GERLACH, Philadelphia, Pa.—*Electric Clock.*—December 3, 1867.—The connections with the positive and negative poles of the battery are either formed or broken by means of a vibrating bar operated by the pendulum and by the clock-work connected therewith.

*Claim.*—First, the combination and arrangement of two or more galvanometers with one or more polarized steel bars, combined with the pendulum, and arranged either above or below the centre of motion, substantially as described and for the purpose set forth.

Second, producing a double automatic circuit, by means of the combination of the pendulum *H* with the sliding bar *L*, arranged and operating in relation to the electric wires *p* and *p*<sup>1</sup> which project to the

surface of the projections *o* and *o*<sup>1</sup> of the bridge *K*, substantially as described and for the purpose specified.

Third, the combination and arrangement of the electric wires with the batteries, the galvanometers *S* and *S*<sup>1</sup>, the sliding bar or circuit-changer *L*, and the bridge *K*, so as to produce a double-acting circuit by means of the motions of the pendulum, substantially as described.

Fourth, the combination of the ratchet wheel *E* with the pendulum *H*, by means of the lever *F*, forked bar *G*, and pawl *I*, arranged and operating in relation to each other, substantially as described and for the purpose specified.

Fifth, the combination of the ratchet-wheel shaft *c* with the shaft *a*, by means of the wheels *C* and *D* and pinions *v* and *v*<sup>1</sup>, substantially as represented.

Sixth, the combination of the set screw *j* with the forked bar *G* and pawl *I*, substantially as and for the purpose set forth.

**71,625.**—JOHN L. KRAUSER, Tylersburg, Pa., assignor to J. E. EMERSON, Trenton, N. J.—*Saw.*—December 3, 1867.—The tongued and grooved insertable teeth are made thicker than the saw-plate to strengthen them and to make a kerf which frees the plate. Their inward pressure is resisted by rear plugs or by rivets which occupy edge notches in tooth and plate. The tongues and grooves may lap the faces of their seats, so as to hold the tooth firmly.

*Claim.*—First, making the tongued and grooved teeth thicker than the saw plate, as and for the purpose described.

Second, the devices, or their substantial equivalents, for holding the teeth against their inward thrust, constructed substantially as described.

Third, the tongues and grooves on and in the edges of the teeth and saw plate, when the grooves are made smaller than the tongues, by hammering, pressing, or otherwise, so that the sides of the grooves form a spring to clasp or gripe the tongues sufficiently tight to firmly hold the teeth in the saw when in motion, without the aid of any other fastening, substantially as described.

**71,626.**—GEORGE KROTZINGER, New York, N. Y.—*Game.*—December 3, 1867.—The balls are suspended from a crane. A frame is attached to the body of the crane in which are placed lifting bars which are tilted when struck by the player by means of the suspended ball.

*Claim.*—The above-described construction and arrangement of parts, constituting a new game for players, substantially as and for the purpose set forth.

**71,627.**—DANIEL LIEBRICH, Philadelphia, Pa.—*Door Gong.*—December 3, 1867.—The trip lever, when actuated by opening the door, draws the hammer back and releases it suddenly, when the spiral spring immediately retracts it, causing it to strike the bell.

*Claim.*—First, the angular plate *C*, hammer *D*, trip lever *E*, spiral spring *F*, and the stud *c*, when combined and arranged as shown and described.

Second, the hammer *D*, trip lever *E*, and the pin *g*, as shown and described.

Third, the hammer *D*, trip lever *E*, pin *g*, and the spiral spring *F*, as shown and described.

**71,628.**—JAMES K. MARTIN, Chicago, Ill.—*Device for Hoisting Hogs in Slaughter Houses.*—December 3, 1867.—The gambrel is eluted by the gripping jaws which are attached by chains to the frame, whose roller travels on a way-rod to transport the hog.

*Claim.*—The coneave-shaped clutch *E*, as described, suspended on chains or bars, as specified, in combination with bar *A* and its appendages, (roller, handle, and eyelet,) the whole constructed and operating substantially as herein described and specified.

**71,629.**—THOMAS MARTIN and J. G. EVANS, Muscatine, Iowa.—*Burning Fluid.*—December 3, 1867.—Composed of benzine, 40 galls.; aqua ammonia, 1 lb.; chloride lime, 2 lbs.; Irish moss, 2 lbs.; protosulphate of iron, 2 lbs.; gum camphor, 4 oz.; essence of peppermint, 4 oz.

*Claim.*—A burning fluid, composed of the ingredients and combined in the proportions herein specified.



**71,630.**—B. F. MILLER New York, N. Y.—*Ventilating Cowl*.—December 3, 1867.—The curved contracting ventilator opens into a curved passage leading to the space to be ventilated, thus avoiding the eddies and counter currents. Water dams arrest the rain or spray that finds entrance into the ventilator.

*Claim.*—First, the curved air passage *c*, extending from the trunk *b* to the mouth of the ventilator, as and for the purposes set forth.

Second, the inclined plate *f* and plate *g*, in combination with the openings 2 and 3, for receiving and discharging water that may enter the ventilator, as set forth.

Third, the opening 4, at the lower end of the curved plate *e*, for the purposes and as set forth.

Fourth, the flange plates 5 upon the plates *d*, extending from the plate *f*, to direct moisture out through the opening 4, as specified.

Fifth, the perforated doors *h h*, in combination with ventilator, formed with the curved air passage *c* and flaring mouth, as and for the purposes set forth.

**71,631.**—DIETZ MONNIN, Paris, France.—*Clock Cases*.—December 3, 1867.—Explained by the claim and illustration.

*Claim.*—A cast-metal clock case, having its front, sides, base, top, and dial cast in one piece, as set forth.

**71,632.**—GEORGE R. MOORE, Lyons, Iowa.—*Construction of Corrugated Sheet Metal Boilers*.—December 3, 1867.—The boilers are strengthened by longitudinal braces along the corrugated side plates.

*Claim.*—The longitudinal braces B B B B, or their mechanical equivalent, in the form of longitudinal bolts or bars, substantially in the manner and for the purposes herein set forth.

**71,633.**—ALBERT C. NEWCOMB and BENJAMIN LYON, Springfield, Mass., assignors to themselves and SAMUEL W. PORTER, same place.—*Cartridge Box*.—December 3, 1867.—Explained by the claim.

*Claim.*—A cartridge-box, having an elastic bed or support in the bottom of the chamber *b*, upon which the cartridge may rest while in place, substantially as herein described and for the purposes specified.

**71,634.**—B. J. OLEFF, Milwaukee, Wis.—*Spring Bed Bottom*.—December 3, 1867.—The longitudinal slats are interwoven by transverse slats and are attached by spiral springs and hooks.

*Claim.*—A bed bottom made crowning, with slats C and D, springs B and hooks E, in combination, substantially as and for the purpose described.

Also, hook E with its nut G, in combination with the spring B and slat C, connected thereto for the purpose of tightening the slat and spring, as described.

Also, the arrangement of the inside longitudinal slats C in pairs, connected to springs B, with the two outside slats single, with their connections, as described.

**71,635.**—JOHN H. PARSONS, Quincy, Mich.—*Paper Clip*.—December 3, 1867.—The tips for attaching the papers enter the slots in the lower plate, which is slightly raised from the back board, and they are forced through the papers by the metallic perforated clip above.

*Claim.*—First, the plate C, provided with the slots *d d*, constructed as described, in combination with the clip A, having the holes *h h*, all arranged substantially as described and for the purpose set forth.

Second, the combination of the clasps T or H, plate C, clip A, and guides *y y*, substantially as shown and described.

**71,636.**—EZEKIEL PEA, Mechanicsburg, Ill.—*Fastening for Gates and Barn Doors*.—December 3, 1867.—The engagement of the latch is enforced by a spring when not elevated by the vertical lever above.

*Claim.*—This combination of latch B, spring C and lever A, applied to gate and door fastenings, as described.

**71,637.**—CHARLES E. PIERCE, N. Y.—*Burglar Alarm and Lock Apparatus*.—December 3, 1867.—The alarm apparatus being connected, if a door is slightly opened or a window raised, an alarm is sounded and the dial plate indicates the point of at-

tack. At the same time the door or window is drawn back and locked.

*Claim.*—First, the combination of the bolts shown in Figs. 5 and 6, with the parts 5a 5b and 6a, operating to lock a window, in the manner shown.

Second, the parts represented on Figs. 14 14a 14b and 14c, or their equivalent, operating as described and for the purposes set forth.

Third, in combination with the elements of the preceding claim, the lever O, operating as described.

Fourth, in combination with the alarm mechanism, the levers for increasing the length of movement, and the rollers, all combined as and for the purposes set forth.

Fifth, the center wheel M, on Figs. 1 and 2, made up of parts M<sup>1</sup> and M<sup>2</sup>, for purposes set forth.

Sixth, the bolt on Fig. 7, made up of parts C' I b' and K, for locking a door or gate, at the same time that it operates the alarm mechanism, as described and for purposes set forth.

Seventh, in combination with elements of the claim preceding, the plates J and H, as and for the purposes set forth.

Eighth, in combination with the parts claimed in the second and third claims, the dial plate with openings, as and for the purposes set forth.

**71,638.**—ELIJAH S. PIERCE, Hartford, Conn.—*Mechanism for Feeding Screw Blanks*.—December 3, 1867.—The blanks being fed from the hopper to the slotted trough pass down in a single row and rest upon the pins of the rocker, which is pressed against the converging arm by a spring that, as soon as the arm is turned, moves the rocker and pressing in the pins releases a blank which falls into the receptacle of the arm. The arm turning by the operation of the cam brings the blank opposite the jaws in the spindle. The rod is then pushed in by the arm operated by a cam and the blank is received by the jaws. The arm then withdraws and allows the rod to be forced back to its first position and strikes the lower end of the rocker, and pushing it back against its spring releases another blank.

*Claim.*—First, the combination of the cams M and N, the levers B C D and G, the rocking shafts E and R, the connecting rod F, the spindle H, the conveying arm J, the rod P, the arm Q, the rocking piece L, the feeding trough O, or their mechanical equivalents, the whole constituting a feeding and conveying mechanism, substantially as herein set forth.

Second, the combination of the conveying arm J, the rod P, the arm Q, and the feeding trough O, operating substantially as herein described, and for the purpose specified.

Third, the conveying arm J, the rod P, and the arm Q, constructed and operating substantially as described.

**71,639.**—OLIVER E. PILLARD, New Britain, Conn., assignor to FREDERICK H. NORTH, same place.—*Adjustable Tumbler for Permutation Locks*.—December 3, 1867.—The friction band within the notched ring forming the exterior portion of the tumbler surrounds the disk on the tumbler axis and carries the pin by which one tumbler is made to move the next. The cam, while rotating, draws the ends of the friction band toward each other, clamping the disk and connecting the two parts by a more extended frictional contact, insuring its action.

*Claim.*—The friction strap *i* applied around the periphery of the stud disk *b*, and within the notched tumbler *a*, in combination with mechanism for tightening said strap, substantially as and for the purposes set forth.

**71,640.**—J. H. PORTER, New York, N. Y., assignor to FREDERICK H. NORTH, New Britain, Conn.—*Adjustable Tumblers for Permutation Locks*.—December 3, 1867.—The circular tumblers are divided into three parts; the first is a disk carrying a stud, and the second a half circle that is hinged to the third piece, which is a similar half circle with a tongue that engages in the mortise of the corresponding section. An eccentric cam draws the tongue further into the mortise and clamps the stud disk between the half circles of the lock tumbler. The eccentric being placed so that the stud disk is relieved of the clamping friction of the tumbler, the disk is turned so that the relative position of its stud to the notch



in the tumbler may be varied and thereby change the points of indication for opening the lock.

*Claim.*—The circular tumbler *d e* formed of two parts hinged together in combination with the disk *b*, and with mechanism, substantially as specified, for drawing the parts of the tumbler together and clamping said disk, as set forth.

**71,641.**—H. PROUHET, St. Louis, Mo.—*Button*.—December 3, 1867.—The lower disk of the button has a recess that engages the edge of the button hole and enables the disk to enter a smaller hole as it is rotated.

*Claim.*—The disk *A'* and the locking plate *a*<sup>2</sup>, when combined and arranged, substantially as described and set forth.

**71,642.**—SAMUEL RICHARDS, Philadelphia, Pa.—*Snow Plow*.—December 3, 1867.—The inclined plane attached in front of the car raises the snow to the incline above, from which it is projected laterally by oscillating wings that are actuated by the endless band that engages a roller which is operated by its connection with the running gear.

*Claim.*—First, combining with an ordinary eight wheel flat car or car bottom the removable front plane *F* and the removable inclined top piece *F'*.

Second, combining with an ordinary eight wheel flat car or car bottom the removable front plane *F*, the removable inclined top plane *F'*, and the upper wedge block *G*, or their equivalents.

Third, the arrangement of an axle or windlass *I*, endless cord, and shifting wedge piece *G*, or their equivalents.

**71,643.**—GEORGE B. RICHARDSON, Boston, Mass., assignor to himself, THOMAS T. SANBORN, and WILLIAM M. COBB.—*Salt Bottle or Castor*.—December 3, 1867.—The forked pulverizer keeps the salt loose in the bottle.

*Claim.*—The movable pulverizer *B* provided with points or projections, in combination with a receptacle *A*, constructed and operating substantially in the manner and for the purpose set forth.

Also, in combination with the above the piece *e* of cork or its equivalent placed at the bottom of the bottle *A*, for the purpose described.

**71,644.**—WILLIAM RICHTER, Lansing, Mich., assignor to S. D. NEWBRO, same place.—*Jaw for Steel Traps*.—December 3, 1867.—The points of the clutches attached to the jaws of the trap pierce the animal that has sprung the trap and assist in its retention.

*Claim.*—The employment of the clutches of the particular form and shape specified, constructed and attached to or near the external edges of the jaws of steel traps, substantially as above described and for the purpose set forth.

**71,645.**—F. W. ROBBINS, Solon, Ohio.—*Churn*.—December 3, 1867.—The vertical shaft has a flanged spiral beater that forces the air down into the cream.

*Claim.*—A churn dasher, when constructed with a spiral beater *D'*, continuous or in sections, in the manner substantially as set forth.

**71,646.**—C. ROBINSON and W. H. LOVEJOY, Lynn, Mass.—*Lasting Shoes*.—December 3, 1867.—The upper is stitched to the insole preparatory to stitching on the outer sole, to strengthen the attachment.

*Claim.*—The improved mode of connecting the upper to the insole, viz: by the two ranges of sewing, one of which is carried through the other and the upper, and the other through the insole alone, as set forth.

**71,647.**—HENRY P. ROCHE, Utica, N. Y.—*Machine for Stretching Cloth*.—December 3, 1867.—The cloth is drawn through a series of frictional stretching bars and passed over spreading rollers so as to equalize the inequalities on its surface and enable it to be firmly and smoothly wound on the winding roll.

*Claim.*—First, the combination of the roller *F*<sup>4</sup> with the supporting sockets *F*<sup>5</sup> and *F*<sup>3</sup> and eccentric sleeve for disconnecting the socket from its driving mechanism, as and for the purposes described.

Second, in combination with the above the spreading roller *H*, constructed and operating as and for the purpose set forth.

Third, the combination of roller *F*<sup>4</sup>, sockets *F*<sup>3</sup> and *F*<sup>5</sup>, and roller *H*, constructed as described, with friction bars *B B*, substantially as and for the purposes set forth.

Fourth, in combination with the above, the bath *A*, as and for the purposes set forth.

**71,648.**—HENRY H. ROCKWELL, New London, Conn., assignor to himself, HENRY L. BACON and JOHN H. LATHAM, same place.—*Safety Strap for Bridles*.—December 3, 1867.—The disks are confined in their places by the rein attachment rings, and prevent the escape of the bit from the mouth.

*Claim.*—The arrangement and combination of the disks with the strap or straps and the rein rings thereof, the said disks being for the purpose and to operate as specified.

**71,649.**—JOHN L. ROHRER, Upper Leacock township, Pa.—*Harvester Rake*.—December 3, 1867.—The reel and rake attachment are operated by the same gearing on the vertical shaft by which the rake is arrested at pleasure without interfering with the motion of the reel. The reel arms, the arms of the spider and bevel wheel, and the rake handle are so connected by a two-slotted plate as to allow the arms and handle to be adjusted in two directions.

*Claim.*—The combination and arrangement of the reel arms *J* with the spider *G G G* and pinion *F*, in combination with the pinion *E* operating obliquely, both on the same shaft and operated with the raking attachment, in the manner and for the purpose specified.

Also, the arrangement of the clutch *B* in its flange, pivot *b* on the cap *A*, operated by a spring rod *N* to connect and disconnect the cap with the driving wheel *O*, which actuate the rake and reel, in the manner and for the purpose set forth.

Also, the bent or shouldered plates *Q* provided with a straight and a curved slot, when employed for connecting and adjusting the rake arm *I* or reel arms *J* with the arms *G* and *H*, in the manner and for the purpose specified.

**71,650.**—W. T. C. RUNNELLS, Searsport, Me.—*Washing Machine*.—December 3, 1867.—The corrugated hinged bottom supports the clothes, over which travel the corrugated rollers that are pressed down by the weighted table.

*Claim.*—The combination of the corrugated and hinged bottom *g* with the rollers *j*, table *e*, weight boxes *f*, shaft *d*, crank *b*, cord *k*, and tub *a*, substantially as and for the purpose specified.

**71,651.**—EILERT O. SCHARTAU, Philadelphia, Pa.—*Lamp Chimney*.—December 3, 1867; antedated November 21, 1867.—The flanged top forms a reflector, and the perforation opposite the wick facilitates lighting the lamp.

*Claim.*—The glass chimney with the flared top, whether scalloped or plain on the edge, as herein described.

Also, the glass chimney having a shoulder formed at the top, for the purpose of permanently attaching a glass or metallic top, as herein described and for the purposes set forth.

**71,652.**—ARBA M. SEYMOUR, Jr., Madison, Wis.—*Churn*.—December 3, 1867.—The vertical slatted dasher has a vertical movement between the slats fixed in the churn.

*Claim.*—The construction, arrangement, and operation of the dashers, as and for the purpose specified.

**71,653.**—PALMER SHAW, Syracuse, N. Y.—*Harness Pad-block*.—December 3, 1867.—The block on which the leather padding cover is formed has a detachable portion to receive the nails used in clamping the leather to the block.

*Claim.*—First, a harness pad-block, when so constructed that the portion in which the nails are driven is made separate and detachable from the main portion of the block, substantially as and for the purpose set forth.

Second, the hollow iron block *A*, filling *B*, and set screws *c c*, constructed and combined substantially as herein shown and for the purpose described.

**71,654.**—CHARLES E. SIMMONS and HOMER COOK, Waukegan, Ill.—*Bed Bottom*.—December 3, 1867.—



The slats are supported by spiral springs and braced against lateral or longitudinal misadjustment by the hinged braces and straps.

*Claim.*—The combination of braces D D D' D' and F F, hinged to the upper frame B and to the plates *f*, with the pivoting plates C C, arranged and operating as described.

**71,655.**—RODNEY L. SMITH, Walcottville, Conn.—*Twine Holder.*—December 3, 1867.—The twine passes through a ring suspended inside the holder, whereby it is kept from tangling or leaving the ball.

*Claim.*—The loop or ring with the upper part or the twine holder, for the purposes and as specified.

**71,656.**—THOMAS SMITH, New York, N. Y.—*Washing Machine.*—December 3, 1867.—The flexible washboard is supported on springs and fitted with detached slats in the suds box. The wings of the radiated arms rub the clothes against the washboard.

*Claim.*—The circular flexible and springing washboard, in combination with a series of rotating (or vibrating) extensible arms and clamps, or their equivalents, carrying the fabrics to be washed, all operating substantially in the manner and to the effects described.

**71,657.**—BENJAMIN R. SMITHSON, New York, N. Y., assignor to himself and SAMUEL WEST, Boston, Mass.—*Apparatus for Generating Oxygen Gas.*—December 3, 1867.—Sulphuric acid is introduced through a platinum pipe into a retort containing coarsely powdered pumice stone kept at a red heat: the acid is decomposed into sulphurous acid and oxygen gas. The acid is afterward separated by washing, leaving the oxygen free.

*Claim.*—The within described apparatus for generating oxygen gas, constructed and operating substantially as set forth.

**71,658.**—JOHN M. SPORER, Philadelphia, Pa.—*Shoemaker's Lamp.*—December 3, 1867.—The vertical cylindrical pipe conveys the heat from the flame to the tools which lie in the troughs above.

*Claim.*—The combination and arrangement of the cylinder B, trough D, curved arms E E', and the steady rests *b b'*, as shown and described.

**71,659.**—SAMUEL B. STEWART, Brush Valley, Pa.—*Grate for Stoves and other Heaters.*—December 3, 1867.—The grate rotates on anti-friction rollers, is divided by radial partitions and has flues ascending into the chambers above.

*Claim.*—First, a gate swinging horizontally, and communicating successively with two or more separate flues, substantially in the manner described, for the purpose of warming different rooms in succession by a single fire.

Second, a revolving grate, divided into compartments, each communicating with an independent flue, substantially in the manner described.

Third, the combination, substantially in the manner described, of a revolving grate, divided into compartments by vertical radial partitions, and revolving on a vertical axis, with a flue having corresponding partitions, for the purposes set forth.

Fourth, the combination, substantially in the manner described, of a revolving grate, with a heating or cooking stove, and one or more open grates, for the purpose of applying the heat successively to each, or simultaneously to all, as set forth.

Fifth, the combination, substantially in the manner described, with a revolving grate having radial partitions or wings attached to and revolving with it, in the ash pit of a discharge spout, for carrying off the ashes swept into it by the wings in their revolution.

**71,660.**—OLE O. STORLE, Norway, Wis., assignor to himself and ISAAC N. MASON, Milwaukee, Wis.—*Grain Binder.*—December 3, 1867.—As the chain passes round the spur wheel the connecting rod throws the grain on the rake shaft, which strikes the groove in the sliding strip and raises the rake to an angle of 45°. The rake carries the grain to the sheaf compressor, which brings its fingers behind the grain, takes it from the rake and presses it into the bight of the binding cord where it is bound.

*Claim.*—First, rake B, endless chain C, spur wheels

D and D', connecting rod E, loose wheel F, socket G, and sliding way H, in combination, substantially as described.

Second, compressor *c*, binding cord *l*, crank *d*, and wheel S, in combination, when operated substantially as and for the purpose described.

Third, wabbling wheel U, pulleys V, and nippers X, in combination, operating substantially as and for the purpose described.

Fourth, clutch M, spring P, lever Q, and wheel S, in combination, substantially as described.

Fifth, clutch M, pinion R, wheel S, wheel T, and cylinder W, operating in combination, substantially as described.

Sixth, slotted wheel Y, in combination with compressor *c* and nippers X, substantially as and for the purpose described.

Seventh, slotted wheel Y, knife Z, and spring *a*, in combination, substantially as described.

**71,661.**—H. C. STOUTER, J. HEATON, and A. A. BUSHONG, Columbiana, Ohio.—*Horse Hay Fork.*—December 3, 1867.—The tines are projected vertically when entering, and laterally when raising the hay, by the action of the pivot lever, which is thrown up by the spiral spring, except when the pressure is released by the attached cord.

*Claim.*—The curved lever E, cheek rod F, and spring H, as arranged in combination with the link D and feet C, in the manner as and for the purpose described.

**71,662.**—GEORGE W. STOUT and JOHN C. RICHARDSON, Newark, N. J., assignors to themselves, JAMES DAVIS, Jr., and SAMUEL R. HAWLEY.—*Hat Ironing Machine.*—December 3, 1867.—The top and sides of the crown and both sides of the brim are ironed and finished at one operation.

*Claim.*—First, a pair of irons operating in conjunction to iron simultaneously both sides of the brim, substantially as described.

Second, the combination, in the same machine, of revolving irons for finishing the brim, and also the top and sides of the crown.

Third, finishing irons operating simultaneously upon the top of the crown, both sides of the brim, and also upon the sides of the crown.

Fourth, so combining the irons which operate upon the brim only that they may be readily separated from each other at will, as and for the purposes described.

Fifth, the combination of the brim irons with their connecting spring, rod and crank, substantially as and for the purpose set forth.

Sixth, the combination of the brim irons with their driving mechanism, so as to admit of the shifting of the positions of the irons without arresting the motions derived from the driving mechanism, substantially as set forth.

Seventh, the combination of the brim irons and the top iron with their driving mechanism, so that the relative positions of the irons may be changed, for the purpose set forth.

Eighth, the combination of a revolving hat block with revolving irons.

Ninth, the combination of a swinging arm which carries the side irons, with a pivoted head stock, as and for the purpose described.

Tenth, the combination of a swinging arm, which carries the hat block, with a swinging arm which carries a finishing iron.

**71,663.**—JOHN M. STURGEON, New York, N. Y.—*Sizing for Bank Note Paper.*—December 3, 1867.—Intended to render the paper nearly fire-proof and absolutely proof against counterfeiting. Composed of a solution of gum dragon, albumen, salt, carbonates of soda and potash, and silica.

*Claim.*—A sizing made from the within formula, substantially as described, and combined for the purposes set forth.

**71,664.**—CHARLES M. TEMPLETON, Concord, N. H.—*Stuffing Box Packing.*—December 3, 1867.—An interiorly-beveled follower is placed beneath the segmental packing, and forces it to contact with the rod by steam admitted beneath the follower. The stuffing is fitted with a removable but unadjustable follower block above.



*Claim.*—The packing ring, consisting of the outer parts R R R and the inner parts r r r, the same being arranged to break joints with each other, in common with the follower F, all operating as and for the purpose described.

**71,665.**—WILLIAM THOMPSON and J. E. HALL, Cleveland, Ohio.—*Carbureting Apparatus.*—December 3, 1867.—The gas as it leaves the apparatus is highly charged with carbon, first by passing through the liquid, and secondly by passing through the living and saturated cotton.

*Claim.*—First, the agitator J, constructed with an annular chamber L, wings M and N, and tubular arms O, in the manner and for the purpose substantially as set forth.

Second, perforated living B, top Q, spouts or sleeves C, and cotton D, or its equivalent, as arranged in combination with the float E and agitator J, in the manner and for the purpose substantially as described.

Third, the float E, agitator J, constructed as described, in combination with a carbureter, in the manner and for the purpose substantially as described.

Fourth, the herein described apparatus, provided with a float and a revolving agitator, constructed as described, whereby the carbureting fluid is agitated for the purpose of largely increasing its evaporation or elimination, substantially as and for the purpose set forth.

**71,666.**—HIRAM TOD, Columbus, Ohio.—*Regulating Watches.*—December 3, 1867.—The free end of the regulator bar is connected by an expansible bar to a nut adjusted by a set screw. The expansion of the bar by heat is intended to counterbalance that of the hair spring.

*Claim.*—First, the combination of the screw E, sliding nut B, link C, and the regulator bar H, as shown and described for the purpose specified.

Second, the employment of the expansion and contraction of the link C, in combination with nut B and regulator bar H, constructed to act upon the hair-spring of the watch and more perfectly regulate the same, as set forth.

**71,667.**—REUBEN TYLER and PETER CAMPBELL, Jr., Diana, N. Y.—*Composition for Roofing.*—December 3, 1867.—Explained by the claim.

*Claim.*—The composition of coal or gas tar with marl and a small quantity of pulverized marble, which will harden and make a good water-proof or fire-proof roof for building purposes.

**71,668.**—RICHARD WALKER, Milford Mass., assignor to himself and JOSEPH B. BANCROFT, same place.—*Machine for Cutting and Mitering Printers' Rules.*—December 3, 1867.—The cutters are placed opposite each other, the moving one being attached to a lever oscillated by a cam. Another cutter slides in a head, adjustable to any angle to cut the required miter.

*Claim.*—First, the cutter n, attached to the adjustable head m, in combination with the cutter d, as described.

Second, the combination of the segmental platform l with the cutter n, cam-lever o, and head m, as set forth.

Third, the combination of the cutter-holding arm b, the connecting bar e, the cam h, and the spring rod k k', substantially as and for the purpose described.

Fourth, the graduated bar r and gauge s, in combination with the platform l, as and for the purpose described.

**71,669.**—P. WERNI and R. B. DE BARE, Chicago, Ill., assignors to REUBEN B. DE BARE, same place.—*Sawing Machine.*—December 3, 1867.—The adjusting tension rod of the saw slides in a vertically adjustable block.

*Claim.*—Suspending the saw upon the rod R, passing through a slide T, which has a vertical movement upon rods a a attached to the vertical frame, said slide being provided with a cord b, passing over a pulley c, all constructed and operating in the manner as and for the purposes specified.

**71,670.**—JOHN WHITWORTH, Cleveland, Ohio, assignor to himself and W. H. HAWKINS, same place.—*Cutter Head for Mouldings.*—December 3, 1867.—The cutter is of cast iron, with chilled edges.

*Claim.*—The herein-described chilled cast-iron cutter, made in the manner as and for the purpose substantially set forth, as a new article of manufacture.

**71,671.**—A. L. WILKINSON, Huntsville, Ala., and E. Y. BEGGS, Nashville, Tenn., assignors to A. L. WILKINSON.—*Portable Hose Bridge.*—An arched track is laid to carry the street car over the hose which may be laid across the car track.

*Claim.*—The arches B B when constructed of single pieces of angle or channel iron, and provided with lugs c c to hold them to a railroad track, in combination with the cross bars o o, constructed with a swivel link v and a goose neck u, substantially as and for the purpose indicated.

**71,672.**—B. F. WILLIAMSON, Franklin county, Ohio.—*Scroll Saw Mill.*—December 3, 1867.—The saw passes axially through the post on which the table turns. The table is adjustable to any inclination.

*Claim.*—The inclined and adjustable revolving platform or table D, constructed to operate substantially as described and for the purpose set forth.

Also, in combination with the post A, the plate or heading I, constructed to operate substantially as and for the purpose set forth.

**71,673.**—M. K. ADAMS, Mountain Eagle, Pa.—*Car Coupling.*—December 3, 1867.—One end of the bolt entering in the cup-shaped recess strikes up the pivoted lid, which, closing down, holds the bolt in the enlarged recess.

*Claim.*—A car coupling, consisting of the double-headed bolt E, in combination with the draw head A, provided with the recess I and hinged lid B, having the loop c attached, when the whole is arranged to operate substantially as described.

**71,674.**—NATHAN ALBERTSON, Plainfield, Ind.—*Hoisting Device for Trucks.*—December 3, 1867.—The calipers that embrace the log are hooked to the catch on the end of the ratchet bar. The bar is raised by the lever and is dogged by its attendant pawl.

*Claim.*—The vertical rack E, operated by the lever F, in combination with the spring dog b, when attached to a truck, constructed, arranged, and operating as and for the purpose described.

**71,675.**—WM. J. ALEXANDER, Rolling Prairie, Ind.—*Gate.*—December 3, 1867.—The gate is adjustable for height in the slotted ways of the brace and pendant bars, to which it is attached by bolts. It is opened, when unlatched, by the weighted cord.

*Claim.*—The gate A, the braces C and E, the chain F, with the weight G and pin I, as substantially arranged and set forth in the foregoing.

**71,676.**—JULIUS M. BAILEY, Indianapolis, Ind.—*Wheel.*—December 3, 1867.—The felloes are expanded as they shrink by the wedges at their joints, which are secured by set screws.

*Claim.*—First, the socket b, when provided with grooves upon one side in which the tenons of the felloes fit, and with grooves upon their inner sides to receive the tenons formed upon the wedge C, said wedge adjusted by means of the bolt d, whose head is counter-sunk in the tire A and the nut D, all constructed as described for the purpose specified.

Second, having the spoke E stepped into the slotted bed or socket F, in combination with the wedge G, all substantially as set forth and described.

**71,677.**—DAVID BAIRD, Bloody Run, Pa.—*Exhaust for Mill Stones.*—December 3, 1867.—An exhaust pipe leads from the air-tight box inclosing the stones, and a fan, operated by the shaft that drives the stones, exhausts the air therefrom.

*Claim.*—The combination and arrangement of the box B, having the discharge port D and inclosing the mill stones, with the exhaust pipe E, chamber C, having two outlets c c, and the fan F, the latter arranged between the two exhaust pipes c c, and draw-



ing the air through each of them, substantially in the manner and for the purposes indicated.

**71,678.**—THOMAS C. BALL, Bellows Falls, Vt., assignor to himself, ABIJAH S. CLARK, and SUMNER CHAPMAN, same place.—*Head Block for Saw-Mills.*—December 3, 1867.—The table slides back and forth under the head block, having a rail attached to its upper surface that slides between two pins projecting downward from the knee. The rail being inclined from the perpendicular to the head block, causes the knees to advance or recede as the table moves.

*Claim.*—First, the combination of the knees C C, tables T, and rod R, substantially as and for the purpose described.

Second, the combination of reversing lever L, having the pin l, arm a', and weighted lever M with the grooved wheel S' attached to the shaft S, all being constructed and arranged substantially as and for the purpose specified.

**71,679.**—ASHBEL P. BARLOW, Claremont, N. H.—*Curtain Fixture.*—December 3, 1867.—The rods of the curtain are attached to cords that run through eyelets and are secured to buttons on the window frame, and, in connection with the transverse rod, regulate the position of the curtain.

*Claim.*—In combination with a central supporter b the cords d d and a a, with their supporting eyes, for lowering the upper and raising the lower part of the curtain without rolling it, all as set forth and specified.

**71,680.**—CHRISTIAN BARRY, Philadelphia, Pa.—*Machine for Making Tin Cans.*—December 3, 1867.—The burrer gives the body of the can its shape, and the dies close the seams.

*Claim.*—First, the mode of manufacturing cans, substantially as herein described.

Second, the roll C, with beveled edge f, and roll B, with flange edge g, operating together, substantially as described for the purpose specified.

Third, the swage or die J, having bevel periphery g, and swage or die K, with its periphery r s, beveled and shouldered, operating together substantially as described for the purpose specified.

**71,681.**—CHARLES BARTHOLOMEW, New York, N. Y.—*Machine for Staining Paper.*—December 3, 1867.—The paper is secured by a clamp at one end to the traveling apron. When the clamp reaches the right hand end of the machine it comes in contact with a lever that is pivoted to the frame of the machine, and actuates a bell, (to which it is connected by a cord,) as a signal that the paper has reached the required length.

*Claim.*—First, in machines for staining or coloring wall or other paper, the application and use of the supplementary table J, or equivalent device, between the paper and traveling apron, at the point or points where the coloring matters are applied, substantially as and for the purpose described.

Second, the division of the color box into front and rear compartments by a partition F, so that one set or series of colors shall be discharged in advance of another set or series, substantially as described.

Third, the arrangement of the several discharge openings of the color box in such a manner that those of the front compartments shall be opposite the solid interspaces of the rear compartments, substantially as described.

Fourth, two or more openings in the same straight line in the bottom of a color box, or the bottom of a compartment of a color box, in combination with solid interspaces between such openings, for the purpose of producing stripes of color from the same compartment or receptacle, substantially as shown.

Fifth, the combination with a cistern L, for the supply of color, of a strainer M, constructed and arranged substantially as described.

Sixth, the arrangement, in the supply cistern, of a settling well N, substantially as set forth and described.

**71,682.**—A. S. BATTEN, Topsham, Vt.—*Crane.*—December 3, 1867.—The crane is placed in a convenient position in the sugar factory, and when swung into position with the pans is brought into action by ratchet, crank, and pulley.

*Claim.*—First, the crane, consisting of the arm B,

pivoted as described, to the double or slotted cross-piece C, and working therein and in the double or slotted brace F, substantially as above set forth and described.

Second, the said crane, in combination with the windlass and rope or cable, substantially as described.

Third, the sleeve N, carrying the hooks M, in combination with arm B, substantially as above set forth and described.

**71,683.**—VERTOL D. BEACH, Battle Creek, Mich.—*Machine for Boring Bobbins.*—December 3, 1867.—The mandrel is adjustable to the length of the bobbin. The cylindrical bit holder is secured by a spring attachment to a sliding frame. The oil cup dispenses oil to the bearings of the mandrel without stopping the machine.

*Claim.*—First, the use of the oil cup C with the brush, as described, for the purpose of oiling the reciprocating boring bits.

Second, the revolving bit holder D, constructed and arranged to operate substantially as and for the purpose specified.

Third, the arrangement of the dog H, the semi-elliptic springs L L, the levers R R, the rods M N, the hooks w and 6, the leaf spring 7, the bar v, and the stop s, the links I I, the nuts 9, and the spiral spring P, arranged and operating substantially as and for the purposes specified.

**71,684.**—F. W. BECK and E. W. SEIBERT, Baltimore, Md.—*Packing Smoking Tobacco.*—December 3, 1867.—The tobacco is placed in a bag with a running string in the hem around the mouth of the bag.

*Claim.*—As a new article of manufacture, a package of cut smoking tobacco, the envelope of which is a cloth bag, constructed as described, so that it can be opened and closed at pleasure, in the manner and for the purpose specified.

**71,685.**—WILLIAM P. F. BEGGS, Philadelphia, Pa.—*Truck.*—December 3, 1867.—The arched frame in front of the bed allows the turning of the forward wheels. The bent hind axle drops the bed to a height convenient for loading.

*Claim.*—First, connecting the front end of a truck platform A with the platform H of the front running gear, by means of two or more crane-neck bars I I, substantially as herein shown and described.

Second, the front axle D, fifth wheel F, king bolt G, and front platform H, in combination with the crane-neck bars I, main-truck platform A, and rear axle B, all made and operating substantially as herein shown and described.

Third, the crane-neck bars I, when arranged as described, to connect the main truck platform A with the platform H of the front running gear, and when provided with flanges a and b, by means of which it can be firmly secured to the respective platforms, as set forth.

**71,686.**—THOMAS BELL, New York, N. Y.—*Ink Well.*—December 3, 1867.—The sliding lid of the ink-stand has a projection under it to raise the inky part of the cover from the desk.

*Claim.*—The arrangement of a projection or ridge either on the under surface of a sliding ink-well cover or on that part of the ink-well table or desk over which the cover passes when being opened, substantially as and for the purpose described.

**71,687.**—BENJAMIN S. BENSON, Baltimore, Md.—*Casting Metal Pipe.*—December 3, 1867.—Improvement on his patent, February 17, 1863. The stay confines the core concentrically in the mold.

*Claim.*—The anchor or stay above described, consisting of the wire hoop a, the doubled plates e e, and the bolts i i, when the parts are constructed and arranged substantially in the manner shown and for the purposes specified.

**71,688.**—SAMUEL C. BISHOP, New York, N. Y., assignor to BISHOP GUTTA-PERCHA COMPANY, same place.—*Insulating Covering for Telegraph and Circuit Wires.*—December 3, 1867.—The telegraph wire is coated with a vegetable gum indigenous to South America, that retains its solidity under higher temperature than india-rubber.

*Claim.*—Insulating telegraph and electric wires or



conductors by means of valata or balata, substantially as specified.

**71,689.**—JOSEPH W. BITNER, Downsville, Md.—*Fertilizer*.—December 3, 1867.—The stable and yard manure is thrown into a heap, covered with soil, and rotted, guarding against wet and injurious heat. It is then dried under shelter and reduced to such fineness that it may be sown in a machine adapted to sow guano.

*Claim.*—First, the above described process of damp-rotting manure, and then pulverizing the same, substantially in the manner and for the purposes set forth.

Second, the new fertilizer, prepared by rotting, drying, and then pulverizing the manure, substantially as described.

**71,690.**—MENTOR BRADLEY, Peru, Ind.—*Preventing the Heating of Mill Burrs*.—December 3, 1867.—The burrs are boxed in by a light frame formed from hoops and slats, attached and covered by canvas. It is used as a cool, self-ventilating covering.

*Claim.*—The narrow hoop A A, and canvas or other similar light material, adjustable to any desired height around the burrs.

**71,691.**—G. BRAIN, Springfield, Ohio.—*Screen Guard Attachment*.—December 3, 1867.—The plants are protected by the adjustable hinged screen, which only allows the passage of finely pulverized earth.

*Claim.*—The screen A, in combination with the adjustable hinged plate B applied to a cultivator plow, to operate in the manner substantially as and for the purpose set forth.

**71,692.**—EMELINE T. BRIGHAM, Philadelphia, Pa.—*Pessary*.—December 3, 1867.—The india-rubber pessary is cup-shaped, with a heavy curved lip, and is supported by a spiral spring with a rod and ring for external attachment.

*Claim.*—The pessary A, conical spiral spring B with wire C, having ring D, constructed and arranged to operate as and for the purpose specified.

**71,693.**—G. W. BROWN, Sacramento, Cal.—*Animal Trap*.—December 3, 1867.—The pivoted plate is balanced by the central disposition of the hanging weight, which is inclosed within a pivoted ring whose bearings are at a right angle to those of the disk. The bait is fastened to a hook at the top of the disk.

*Claim.*—The arrangement of the tipping plates, as described and for the purpose set forth.

**71,694.**—JAMES BULL, Galesburg, Ill.—*Gate Fastening*.—December 3, 1867.—The drop bolt engages in the recess of the oscillating catch.

*Claim.*—First, the catch D, constructed in the manner herein represented, being beveled off to an edge at each end, provided with a dovetailed groove at the center of its upper side, and balanced so as to vibrate upon its pivot *a*, substantially as and for the purpose specified.

Second, the stop or latch S, so formed as to act in connection with the catch D, when constructed in the manner and for the purpose specified.

**71,695.**—HIRAM H. CALL, Rohrerstown, Pa.—*Device for Operating Pumps on Railroad Stations*.—December 3, 1867.—Rockers are so arranged beside the track that the wheels of passing trains will communicate motion to two pumps connected with an engine-supply tank.

*Claim.*—The rockers R, combined by a horizontal shaft H S, actuating a vertical rocking shaft S, arranged and operated substantially in the manner and for the purpose specified.

Also, in combination with the rocker R S, the two pawls W for clutching alternately the two twin spur wheels A A, arranged substantially in the manner for operating pumps at railroad stations as described.

**71,696.**—GEORGE G. CARVER, Roxbury, Mass.—*Egg Beater*.—December 3, 1867.—The beater has the outward form of a rolling pin and is applied to that use. The cylindrical part is a glass tube, within which the egg is placed and confined by two heads to which the handles and beaters are attached. Longi-

tudinal reciprocation brings the egg in contact with the grated beaters within the cylinder.

*Claim.*—The combination of the two handles with the glass tube and the head of stoppers and the stirrers arranged within such tube, substantially as hereinbefore specified.

Also, the combination of each stirrer, as composed of the annulus, the series of parallel cross-bars, and the rod extended therefrom, with the movable head or stopper to fit into the glass tube, as specified.

**71,697.**—ZIBA CASTALINE, Baconsburg, Ohio.—*Portable Fence*.—December 3, 1867.—The uprights are set in stones and braced thereto by an iron rod which passes beneath the stones. The upper bars have mortises to receive the tops of the uprights. These bars are halved together at their ends and are held down on the uprights by keys driven through the latter.

*Claim.*—The herein-described fence, when constructed and arranged in the manner substantially as set forth.

**71,698.**—ADDIS E. CHAMBERLAIN and JOHN B. CROWLEY, Cincinnati, Ohio, assignors to CHAMBERLAIN & Co., same place.—*Fireplace*.—December 3, 1867.—The air dives through the coal; the caloric current parts laterally and the currents receive accessions of vital air on each side from openings in the casing, after which they ascend the side flues and pass to the exit. The space between the plates around the fire chamber forms descending flues.

*Claim.*—First, an open-front stove or fireplace, arranged substantially as herein described, to take the air to support combustion from above and downward through the fuel.

Second, in an open stove or fireplace, constructed as above specified, the extended grate J, substantially as and for the purposes set forth.

Third, in an open stove or fireplace, constituted as above specified in the first clause, the interior plates C C' for the purpose of forming the descending flues F F', substantially as herein explained.

Fourth, in combination with the elements of the first clause, the flue strips K k', as and for the object stated.

**71,699.**—THOMAS P. CHAMBERS, Newton, Pa.—*Hitching Strap*.—December 3, 1867.—The hitch strap from the halter ring is passed through a ring in the chain attached to the lower rings of the curb bit.

*Claim.*—A self-checking hitching device, consisting of the chain or strap D, fastened by means of snap hooks, or otherwise, to the ends of the bridle bit, and combined with the hitching strap, substantially in the manner and for the purpose herein shown and described.

**71,700.**—D. G. CHAPIN, Galena, Ill.—*Bed Bottom*.—December 3, 1867.—The coil springs are attached in pairs to the slats by broad-headed nails through their apexes, so as to be a support to one another.

*Claim.*—Fastening the coiled springs of beds to the slats by means of a broad-headed nail passed through the apex of said spring, as herein shown and described.

**71,701.**—CHARLES T. CHESTER, New York, N. Y.—*Electro-Automatic Signal Box*.—December 3, 1867.—A pull on the handle causes the winding lever to wind up the train to a distance regulated according to the signal required. A second lever is attached to the winding shaft and engages with the projecting pin of the circuit wheel, which it liberates until the proper number of revolutions have been made, at which point the motion is arrested.

*Claim.*—First, the combination of a train of wheels, controlled by escapement and driving an electric-circuit wheel with a sliding actuator, which is engaged with the winding lever of the train, or is disengaged from it at pleasure, substantially as described.

Second, the combination of this sliding actuator with the box cover, so that dust and other matters are excluded from the interior, substantially as described.

Third, the combination of a train of wheels, controlled by escapement and driving an electric-circuit wheel, with a stopping lever, which is moved by the



actuator and which engages with the stopping pin of the circuit wheel, substantially as described.

**71,702.**—SAMUEL J. CLARK, Detroit, Mich.—*Line Holder*.—December 3, 1867.—The eccentric roller is confined in a case, and acts by friction on a cord. When attached to the sash the roller acts as a support or fastening by friction against the stile.

*Claim.*—The eccentric wheel A, stop B, plate D, and the cap C, or substantially the same, for the purpose designed.

**71,703.**—JOHN C. CLARKE, Jersey City, N. J.—*Temporary Binder for Music, &c.*—December 3, 1867.—The skeleton frame supports and expands the back and bears the flanged hinges of the side boards.

*Claim.*—First, the combination of the rigid metallic back C, having cross slots *c'* formed in it, and the hinged side plates D with each other, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the cord or cords E with the slotted back plate C, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the slotted back plate C and hinged side plates D with the side boards A and back B of the cover, substantially as herein shown and described and for the purpose set forth.

**71,704.**—MICHAEL J. COGAN and M. E. RUSSELL, Mobile, Ala.—*Track Cleaner*.—December 3, 1867.—The scraper foot is hinged to a standard by which it is adjusted to throw the snow inward or outward, and has vertical movement to accommodate it to the track. Three springs operate to check its upward, forward, or backward movement respectively.

*Claim.*—First, the scrapers G G', having the gain *e* and the transverse slots *i*, substantially as and for the purpose desired.

Second, the combination of the scrapers G G' with the standards C C, handles or levers D D, and springs F H H', when constructed and operating substantially in the manner and for the purpose specified.

**71,705.**—JAMES P. COLLINS, Troy, N. Y.—*Thill Coupling*.—December 3, 1867.—Leather straps are attached to the rear end of the thill, and at their ends the straps partially inclose a dovetail metallic block which enters a similar vertical socket of a plate clipped to the axles. The plate is retained in the socket by a wedge, whose withdrawal is prevented by the end of the thill when in working position.

*Claim.*—First, the connecting of the thills of a vehicle to the axle thereof by means of any suitable flexible material, substantially as and for the purpose specified.

Second, the socket A, provided with the two internal parts or compartments *a b*, in connection with the key or wedge F and the looped end of the flexible material C\*, provided with the metal plate E, and secured to the under side of the thill C, all arranged substantially as and for the purpose set forth.

**71,706.**—JOSEPH COLTON, New Orleans, La.—*Safety Pocket*.—December 3, 1867.—The jaws of the clasp are held by spring catches, and it has wire gauze in its body to prevent ripping.

*Claim.*—The combination of the jaws A B, piece C, slides *a*, spring-slides *b d*, springs *e f g*, pin *h*, and the pocket, as herein described, for the purpose specified.

**71,707.**—GEORGE W. COOL, Portland, Oregon.—*Dental Substitute*.—December 3, 1867.—A thin gold plate is attached to the vulcanized plate. It is fitted on to the concave surface of the vulcanite and attached by the fine teeth on its surface that penetrate the vulcanite and are clinched thereto.

*Claim.*—The mode of fastening the thin plate or lining to the vulcanite or other dental plate heretofore in use, in the manner above described.

**71,708.**—JOHN CORREJA, Brooklyn, N. Y.—*Fire Frame for Chimneys*.—December 3, 1867.—The jambs are formed of cast iron plates, and are hollow, to be filled in with brick-work. The lintel and throat are also of cast metal.

*Claim.*—The metallic jambs for kitchen chimneys, formed in the manner and for the purposes set forth;

and in combination therewith, the metallic lintel, throat-piece and back plate, as and for the purposes set forth.

**71,709.**—MARTIN COSGRO, Peoria, Ill., assignor to himself and GEORGE H. REYNOLDS, same place.—*Flour Bolt*.—December 3, 1867.—The exhaust fan combines with the broad wings of the bolt to ventilate the flour and equalize the draft.

*Claim.*—A bolt B provided with broad arms or wings C, constructed and arranged substantially as described, for promoting and equalizing the currents of air which are made to pass through the bolt by means of the exhaust-fan K.

**71,710.**—HARLEY D. COWLES, Bridgeport, Conn., assignor to BRIDGEPORT HORSESHOE NAIL COMPANY.—*Manufacture of Horseshoe Nails*.—December 3, 1867.—The nail plate is thin in the middle and thicker at its raised edges which form the heads of the nails which are ent "heads and tails," their points extending half an inch beyond the central, thinned portion of the nail plate. This leaves an enlargement at the end.

*Claim.*—First, the compound cutting apparatus, consisting of the series of dies and the series of cutters, constructed substantially as herein described.

Second, the method herein set forth of making nails for horse shoes, namely, by first rolling the plate to the form described, and represented by Figs. 1 and 2, and then cutting the nails therefrom by means of the series of dies and series of cutters, secured or formed in sectional holders, all as herein described.

**71,711.**—JAMES M. CROCKETT, Newbern, Va.—*Draft and Ventilating Device for Open Grates, &c.*—December 3, 1867.—The box is connected by a pipe with the outer air, and the supply of the latter to a point immediately in front of the fire is regulated by a damper.

*Claim.*—The arrangement and construction of the box A, damper C, lid E, and pipe D, when combined as herein described and for the purposes set forth.

**71,712.**—WM. DAVIDSON, Binghamton, N. Y., assignor to himself and WM. J. RANNIE, same place.—*Medical Compound*.—December 3, 1867.—A liniment composed of turpentine,  $\frac{1}{2}$  pint; oil of spike,  $\frac{1}{2}$  pint; oil of origanum, 2 oz.; olive oil, 2 oz.; alcohol, 4 oz.; chloroform,  $\frac{1}{2}$  oz.; alum,  $\frac{1}{2}$  drachm; aqua ammoniac, 2 oz.; saltpeter  $\frac{1}{2}$  oz.; sulphuric acid, 2 drachms.

*Claim.*—The composition herein described, for the purposes set forth.

**71,713.**—DAVID P. DAVIS, New York, N. Y.—*Belt-lacing Device*.—December 3, 1867.—Each part has a bar with a series of hook-ended pieces which pass through the lace holes and engage the transverse bar of the other part.

*Claim.*—The two-part lacing A for belts, &c., each similarly constructed, substantially as described.

**71,714.**—BENJAMIN DAY, Bangor, Me., assignor to himself and A. L. Smith, Orrington, Me.—*Shingle Machine*.—December 3, 1867.—The rough slits are fed to the machine where they are automatically dressed to a taper on one side. By a change of the position of the forming board the machine is adapted to shave the other side.

*Claim.*—First, the sliding frame B, adjustable forming board H, knife K, and self-adjusting roller I, all constructed and arranged to operate in the manner and for the purpose substantially as described and shown.

Second, the auxiliary bearing *o*, constructed and arranged to move with the forming board a part of its descent, and to resume its position and office upon the ascent of the forming board, substantially in manner as and for the purposes specified.

Third, in combination with knife K and roller I, the hinged shield L, substantially as described and shown.

**71,715.**—S. T. DENISE, Red Bank, N. J.—*Plow*.—December 3, 1867.—The horizontal roller turns in the furrow behind the share, and communicates rotation to the vertical clearing roller at the breast of the plow.

*Claim.*—The combination, in a plow, of the verti-



cal roller E with the horizontal roller I, the latter rotating the former, substantially in the manner and for the purpose specified.

**71,716.**—GEORGE M. DENISON, New London, Conn.—*Washing Machine*.—December 3, 1867.—The rubber is adapted to work above the corrugated surface of the washboard. The arms have projecting lugs which traverse in guides in the side boards, and the rubbing surface has bristles and elastic ridges or rollers.

*Claim.*—First, the rubbing surface composed of bristles arranged in rows, alternating with elastic ribs or ridges, substantially as and for the purpose specified.

Second, the roller C, arranged in relation with the rows of bristles, and the elastic ribs or ridges, substantially as and for the purpose specified.

Third, the rubber, constructed in the manner specified, in combination with the guides *a*, in the side pieces of the corrugated board, substantially as and for the purpose herein set forth.

**71,717.**—MORDECAI DISNEY, San Francisco, Cal.—*Car Coupling*.—December 3, 1867.—The retaining lip is pivoted in the top of the draw head, and is depressed by a spring. The link engages a fixed clutch, and is raised therefrom by a projection on the detaching lever. The automatic catch engages the detaching lever when in the required position, and retains it.

*Claim.*—First, a car coupling, having a movable retaining lip C, catch *b*, and the detaching lever E, the whole constructed and operating substantially as and for the purpose herein described.

Second, the automatic catch *d*, constructed and operating substantially as and for the purpose described.

**71,718.**—JOHN A. DODGE and GEORGE PERRY, Auburn, N. Y., assignors to JOHN A. DODGE.—*Harvester Rake*.—December 3, 1867.—The rising and falling rake arms are independently hinged in a circular series around a vertical axis and may be used as beaters, or any one thrown into operation as a rake by the action of the operator.

*Claim.*—First, the switch S, constructed, arranged, and operating as described.

Second, the combination, with a continuously rotating rake, of a vertically moving latch T, constructed, arranged, and operating as described.

Third, the combination, as described, of the vertically moving switch S with the stop *s*<sup>1</sup>, for the purpose set forth.

Fourth, the combination, substantially as described, with the continuous cam guide, of the switch arranged to play vertically to change the path of the rakes.

Fifth, the combination, with a continuous cam guide K, of an outside track *k*, a switch S, and a latch T, when both the latter are arranged to play vertically, for the purposes set forth.

Sixth, the combination of the switch S, the crank arm *s*<sup>2</sup>, the cord *s*<sup>3</sup>, the spring *s*<sup>4</sup>, all constructed and arranged as described for joint operation.

Seventh, the combination of the independently hinged rising and falling rake arms, continuously rotating round a common center, with the continuous cam guide, the vertically moving switch, and the latch, whereby either one of the arms can be used as a reel or as a rake, at the pleasure of the operator.

Eighth, the rake arms, having curved depending arms carrying friction rollers, and operating as described.

Ninth, the arrangement of the friction rollers on the bent arms *n*, so that they always travel outside of the continuous cam guide K.

Tenth, the combination of the continuous cam and fixed cam plate with the independently hinged, continuously rotating, rising and falling arms, carrying friction rollers running outside of the cam guide, and controlled by the switch, whereby the beaters are made to act as either a rake or a reel, as required.

Eleventh, the combination, substantially as described, with a continuous guide, a cam plate, a switch, and a latch, of independent continuously revolving rising and falling arms, a crown wheel carrying the arms, and a bevel wheel to rotate them.

Twelfth, the combination and arrangement, substantially as described, of the drag bar, the adjustable shoe, and the finger beam with the raking mechanism, whereby the rake can be mounted directly

over the shoe, without interfering with the adjustability of the shoe.

Thirteenth, mounting the rake on the adjustable bar *h*, as and for the purpose described.

Fourteenth, the combination of a platform and hinged drag bar, having a standard mounted on each, with raking mechanism mounted in a frame adjustable backward and forward on the standards, substantially in the manner and for the purpose described.

**71,719.**—JOSEPH DOUGLASS, McConnellstown, Pa.—*Yard Measure*.—December 3, 1867.—The measure has a handle at one end, and two measuring flanges projecting from its face.

*Claim.*—The yard stick, with handle B and measuring flanges C C', substantially as described.

**71,720.**—E. H. DURU, Paris, France.—*Car Brake*.—December 3, 1867; patented in France, October 25, 1867.—The slide block is held in position by a fork fixed at the central point of the pincers and lifts and lowers with them as may be required. To prevent the pincers receiving side shocks from the rocking of the cars when in motion, a little freedom is given to the chains. Under the handle is a ratchet wheel for tightening the brake.

*Claim.*—The adjusting gear B F N, in combination with the pincers C and with a railroad car, substantially as and for the purpose set forth.

**71,721.**—CARL HERRMAN EIFFLER, New York, N. Y.—*Locking-knob Latch*.—December 3, 1867.—The spindle has an extension screw by which it is adjusted to the thickness of the door. The nut on the spindle is combined with a movable stump and disk tumblers so that when the latter are set, the stump drops into the notches and the outer knob is connected with the latch.

*Claim.*—First, the arrangement of an adjusting screw *a*, provided with a transverse hole to receive the set screw *b*, in combination with the spindle C and knobs D E, constructed and operating substantially as and for the purpose set forth.

Second, enclosing in the knob E the mechanism which serves to throw said knob in and out of gear with the latch, substantially as and for the purpose set forth.

Third, the nut *c* on the spindle C, in combination with the movable stump *d*, tumblers *g*, knob E, and latch B, constructed and operating substantially as and for the purpose set forth.

Fourth, the safety top *o*, in combination with the knob E, washer F, and latch B, constructed and operating substantially as and for the purpose described.

Fifth, the disk *f* provided with cam slots *e e*, in combination with the movable stump *d*, safety top *o*, and tumblers *g*, constructed and operating substantially as and for the purpose set forth.

Sixth, the abutment *u*, in combination with the key-hole and with the safety top *o*, constructed and operating substantially as and for the purpose described.

**71,722.**—E. A. ELLSWORTH, Washington, D. C.—*Nut Lock and Washer*.—December 3, 1867.—The washer is of steel, has one end turned over to engage the nut and prevent its turning, and has a downward projection to prevent the rotation of the said washer.

*Claim.*—First, the spring-nut lock B, and washer A, constructed in one piece, substantially as described for the purpose specified.

Second, one or more points or downward projections or flanges *a*, in combination with the spring-nut lock and washer, substantially as described for the purpose specified.

**71,723.**—SAMUEL EMMORE, Stouchburg, Pa., assignor to himself and A. BURKHOLDER, same place.—*Dough Kneading Machine*.—December 3, 1867.—A screw thread is formed at one end of the axle that carries the stirrers, giving to them a combined intermittent rotary and reciprocating motion. The stirrers are thus forced through the dough by the rotation of the shaft and are at the same time drawn longitudinally.

*Claim.*—First, the shaft C when provided with a screw thread so as to impart a combined intermittent rotary and reciprocating motion to the stirrers of a



dough kneading machine, substantially as and for the purpose herein shown and described.

Second, the tub A when consisting of two parts hinged together, in combination with the sliding cover D, all made and operating substantially as herein shown and described.

**71,724.**—LEVI S. FALES, Tarrytown, N. Y.—*Fertilizing Compound.*—December 3, 1867.—The sulphate of ammonia is obtained by the reaction of the ammoniacal liquor of gas factories and the acidulous waste from the refining of petroleum. One ton of the precipitated crude sulphate of ammonia is mixed with charcoal, 25 lbs; pulverized bones, 200 lbs; sulphuric acid, 25 lbs; dried blood, 50 lbs.

*Claim.*—The fertilizer, composed of sea sand, sulphate of ammonia, charcoal, bones, and dried blood, substantially as herein set forth.

**71,725.**—LEVI S. FALES, Tarrytown, N. Y.—*Fertilizer.*—December 3, 1867.—“Waste” acid from the process of refining petroleum is added to night soil to neutralize the free ammonia. To each ton of night soil, so treated, is added 2 barrels charcoal; ten per cent. sulphate of ammonia; 250 lbs. pulverized bones; 100 lbs. dried blood, and 50 lbs. saltpeter, mixed, dried, and pulverized.

*Claim.*—The fertilizer formed by the combination of the several specified materials, substantially as herein set forth.

**71,726.**—GEORGE V. FARR and EPHRAIM HALL, Brandon, Vt.—*Saddlers' and Shoemakers' Tool.*—December 3, 1867.—Explained by the claims and illustration.

*Claim.*—First, the channelling tool above described, composed of the adjustable knife B, the stock A, and the spring cap C, the lip or bottom of the cap and the shoulder O of the stock forming a gauge to bring the knife at the edge of the sole to be channeled, substantially as set forth.

Second, the rounded or curved forms of the cap C and shoulder O in the direction of their length, substantially as and for the purpose described.

**71,727.**—SAMUEL F. FENN, Middletown, Conn., assignor to himself and F. B. CLARK, same place.—*Bit Brace.*—December 3, 1867.—The stirrup takes under the rectangular part of the shank and retains the bit. The sides of the stirrup spring in close to the cylindrical brace socket and hold it to place.

*Claim.*—The spring stirrup a attached by the pivot b to the spindle A of a brace, constructed and operating substantially as and for the purpose described.

**71,728.**—ALBERT FICKETT, Rochester, N. Y.—*Device for Filling and Packing Rotary Paper Pulp Boilers.*—December 3, 1867.—The cylinder has an opening for the introduction and retrodution of the straw and other material to be treated. The straw is cut into short lengths and runs direct into the cylinder. A hollow screw shaft passes through the journals of the cylinder and forms the axis on which it rotates and is connected with and works a movable perforated head. By means of the longitudinal motion of the piston head in the cylinder the cut straw is packed therein.

*Claim.*—First, the use of a screw shaft and a movable head working upon and operated by the screw shaft, substantially as above described.

Second, the said screw shaft and movable head, in combination with the use of the tight pulley A operated by two belts, one open, the other crossed, in conjunction with the lever H and the belt tighteners b b, substantially as and for the use above described.

Third, the use of two or more guide pieces fastened to the interior surface of the rotary or cylinder in a longitudinal direction, which perform the double function of preventing the movable head from turning when the screw shaft is put in motion and of agitating the contents of the rotary.

Fourth, the use of a hollow and perforated screw shaft, substantially as and for the use above described.

Fifth, the use of a perforated piston head to allow free circulation of the liquor and steam, substantially as above described.

**71,729.**—R. A. FILKINS, North Adams, Mass., assignor to himself and W. B. WERDEN, Waukegan,

Ill.—*Low Water Indicator.*—December 3, 1867.—When the water in the cylinder falls so that the weight will no longer be supported by it the rod is pulled down and with it that end of the lever that is above the cylinder. The valve in consequence is raised and the steam that was held in the ball portion of the tube escaping through the opening in the cap strikes the lower edge of the bell and thereby sounds the alarm.

*Claim.*—First, the tube E, in combination with the tube B, whereby the cold air is prevented from striking the tube B while hot water is in the latter, substantially as described for the purpose specified.

Second, the lever F pivoted to the arm h of the globe C, sliding rod l to which the float G is secured by the chain n, packing tube m, and spring o, all arranged and operating as herein set forth for the purpose specified.

**71,730.**—R. A. FILKINS, North Adams, Mass., assignor to himself and W. B. WERDEN, Waukegan, Ill.—*Rotary Steam Valve.*—December 3, 1867.—The valve has a passage which, when brought in line with the steam pipe, connects the two parts of the same and is adjustable so that the passage may be completely or partially interrupted as desired. When the passage is interrupted the steam is made to press the valve upon the seat and thus prevent all escape and makes a steam tight joint without the use of packing.

*Claim.*—The construction of the hollow conical valve C and its arrangement with the shell E, nut F, flange c, partition j, ring f, shoulder m, and pipe A, all made and operating substantially as and for the purpose herein shown and described.

**71,731.**—R. H. FITTS, Lawrence, Kansas.—*Roofing Cement.*—December 3, 1867.—Composed of coal tar, 8 galls; pulverized soapstone, 90 lbs; air slaked lime, 10 lbs; salt, 2 lbs.

*Claim.*—The composition, substantially as described and for the purposes set forth.

**71,732.**—FRANK FULLER, New York, N. Y.—*Toy Gun or Pistol.*—December 3, 1867.—The spring projectile band discharges the bolt when tripped by the trigger.

*Claim.*—The combination of the discharging rod C constructed with a grooved head b, the spring D operating in the spring chamber a', substantially as set forth; the wedge-shaped trigger E arranged to elevate and release the discharging rod C and the shoulder c' with the stop g and depressing spring h, all constructed substantially as set forth and described.

**71,733.**—A. N. GARLAND, West Charleston, Vt.—*Dress for Mill Stones.*—December 3, 1867.—The furrows are made wide, shallow, and smooth, one edge being cut clean and sharp. Between the furrows the surface near the eye is smooth, and on the other parts of the stone it is serrated.

*Claim.*—The mill-stone dress above described, consisting of the smooth surface inside and the file surface outside of the line D, together with the smooth, shallow channels in the bed-stone, and deeper ones in the runner, the channels in both stones being constructed in the curved form above described, widening towards the rim of the stones, and having one smooth, inclined surface and one perpendicular wall c', the upper edge of the wall being sharp and smooth, and all the parts being constructed and arranged substantially in the manner and for the purposes specified.

**71,734.**—GEORGE GIBBS, Canton, Ohio.—*Plow.*—December 3, 1867.—The lower side of the beam is straight, and at its rear end is connected by a detachable brace rod to the lower end of the standard. The rear end of the landside is formed like a sled runner. The coulter foot is flanged wholly on one side.

*Claim.*—First, the straight beam a, in combination with the detachable wooden brace b, fitted into sockets, for the purpose as herein specified.

Second, the landside d, of the form and for the purposes as set forth.

Third, the coulter nose e, made and used as and for the purpose specified.

Fourth, the beam a, brace b, landside d, and coulter



nose *e*, combined to form the design specified, when made and used as herein described.

**71,735.**—WM. GIBBS, GEO. GIBBS, and L. P. WIKIDAL, Canton, Ohio.—*Plow*.—December 3, 1867.—The share is rabbetted to receive the fore end of the moldboard.

*Claim.*—The flange on cast shares, when constructed and used as hereinbefore described.

**71,736.**—SAMUEL GOOD, Greenville, Ohio.—*Fence*.—December 3, 1867.—The blocks are composed of brick earth, and similarly baked. They have legs which enter grooves in the base piece beneath, and have counterpart end projections and cavities by which they engage those beside them.

*Claim.*—The blocks A and B, when constructed substantially as described, having a suitable base C, and formed into a fence, as specified.

**71,737.**—A. C. GOODMAN and HENRY FESSLER, Canton, Ohio, assignors to themselves and HENRY FOLTS, Stark county, Ohio.—*Railroad Gate*.—December 3, 1867.—The gate is laid down by the pressure of the passing train upon the upwardly-projecting arm of the rock shafts to which the gate is connected.

*Claim.*—First, the gate C, provided with a weight D, which causes it to assume a vertical position when not confined, as and for the purpose set forth.

Second, the arrangement of the crank shafts E with their bars F, connecting rods G G, and the gate C, as and for the purpose specified.

Third, the arrangement of the spring notched bar H with the crank shaft E and gate C, as and for the purpose set forth.

**71,738.**—A. I. GOODRICH, Waterbury, Conn.—*Regulator for Marine Clocks*.—December 3, 1867.—The regulator is made of a single bent strip in lieu of three, as heretofore.

*Claim.*—A regulator for marine clocks, made of one piece or strip of metal from end to end, substantially as described.

**71,739.**—JOHN J. GORDON, Flint, Mich.—*Bag Tie*.—December 3, 1867.—The hook and bar are drawn together over the bag end by their connecting cord, and the cord is belayed on the bar.

*Claim.*—The bar A, hook B, and cord C, constructed, combined, and used substantially as and for the purpose set forth.

**71,740.**—JACKSON GORHAM, Bairdstown, Ga.—*Baling Press*.—December 3, 1867.—The follower has upward movement, and is operated by compound toggle levers, actuated by cords connected to a windlass.

*Claim.*—The arms I, constructed as described, having diverging side pieces *b b*, the bottoms of said arms resting in grooves of the framing *d* and attached to the ends of the rope J, which passes over the pulleys *e* in the end of the lever H to the shaft C, all arranged and operating as herein described.

**71,741.**—JACKSON GORHAM, Bairdstown, Ga., assignor to himself and JOHN ARMSTRONG, same place.—*Shaft Attachment for Carriages*.—December 3, 1867.—The short tugs are engaged by hooks on the sliding bars connected to the whiffletree.

*Claim.*—The attachment to carriage shafts, consisting of rods having hooks, and hung to the whiffletree and sliding hooks, substantially as and for the purpose described.

**71,742.**—HARRISON GRAMBO, Philadelphia, Pa.—*Apparatus for Making Paper Articles*.—December 3, 1867.—The macerated material is violently agitated until it becomes a pulp of uniform consistency. A reciprocating motion is imparted to the interlacer by the bell crank, causing the superfluous water to flow through the meshes of the gauze bottom, and to feed the pulp to the opening at its free end into the expanded former. When a portion of the pulp tube has passed the bottom of the former the bottom is contracted, so as to reduce in diameter the subsequent portions of the tube, and thus form the brim and body of the hat. When a further quantity, equal to the height of the hat, has passed through the former,

its bottom is closed, so as to cut off the supply, and thus form the top of the hat.

*Claim.*—First, forming articles from paper pulp, complete by continuous operations, substantially as described.

Second, the feed and agitator box G, substantially as described for the purpose specified.

Third, the interlacer E, substantially as described for the purpose specified.

Fourth, the cone I and flexible former K, substantially as described for the purpose specified.

Fifth, the cords *p* and windlass *n'*, or equivalents, in combination with the former K I, substantially as described for the purpose specified.

Sixth, the blocking mechanism L M N, substantially as described for the purpose specified.

Seventh, the drying and pressing cylinder N', in combination with the blocking mechanism L and blast apparatus O, substantially as described for the purpose specified.

Eighth, the flocking device U V, substantially as described for the purpose specified.

Ninth, the series of set screws S, arranged in circular form, carrying cam rollers T on swivel arms *u*, for the purpose substantially as described.

Tenth, the combination and arrangement of the various devices and parts herein described, or their equivalents, operating in the manner and for the purpose substantially as described.

**71,743.**—LUCIA F. GRIFFIN, New York, N. Y.—*Medical Compound*.—December 3, 1867.—A liniment composed of spirits of wine, 1 qt.; gum guaiacum, 4 oz.; hemlock gum, 2 oz.; gum camphor,  $\frac{1}{2}$  oz.; molasses, 1 pt.

*Claim.*—A medicated balsam composition of the ingredients herein named, as and for the purposes set forth.

**71,744.**—THEODORE GRUNDMANN, Cleveland, Ohio.—*Distilling Apparatus*.—December 3, 1867.—A small vessel is placed above the retort, into which the vapors pass and whence they are conducted to the cooler. The vessel communicates by pipes with the retort to prevent the over-boiling of the liquid.

*Claim.*—First, the vessel B, when connected with the upper part of the retort by means of pipes *a* and *b*, and when provided with a dish-shaped cooling cover *c*, substantially as and for the purpose herein shown and described.

Second, the retort A and vessel B, when made and arranged as set forth, in combination with a cooler E, as described.

**71,745.**—JAMES R. HALL, Georgetown, Ill.—*Sash Stop*.—December 3, 1867.—A spring on the edge of the sash rests against the easing, and a lever catch is projected through the face plate by an eccentric to act as a stop, or is withdrawn by a contrary movement.

*Claim.*—The combination of the spring E and lever catch G and eccentric roller I, substantially as and for the purpose described.

**71,746.**—ALEXANDER HAMBR, New York, N. Y.—*Street Pavement*.—December 3, 1867.—Explained by the claims.

*Claim.*—First, the method, herein described, of paving streets by the employment of small blocks of wood, glued together to form sections of about four feet square, which sections are arranged side by side upon a bed composed of sand, lime, and silicate of soda, with spaces between the sections to be filled with asphalt, as hereinbefore described.

Second, the combination, as described, of the small wooden blocks glued together in sections, the mortar foundation, the parallel timbers underlapping the joints of the sections, and the asphalt filling between the sections, for the purposes set forth.

**71,747.**—T. C. HAMMOND, Nicolaus, Cal.—*Grading and Excavating Machine*.—December 3, 1867.—The plow raises the dirt and deposits it on the endless belt, which carries it to the carriages in the rear, which deposit it on both or either side.

*Claim.*—First, the construction of a plow with an angular upright standard, having a sole plate or wing and a mold-board and share, together with all



the connecting parts, substantially as described for the purpose specified.

Second, a double plow of the above description, all of the different parts of which are reversed and pointing and facing in opposite directions, and connected by a continuous beam and furrow bar.

Third, the peculiar circular, beveled shape of the apron frame, Plate 2, by means of which the apron frame is closely fitted to the under side of the mold-board of the plow.

Fourth, the construction of a double-acting traction horse power, working upon two wheels with separate reversed parts, the whole being so constructed as to work in opposite directions without turning.

Fifth, the construction of the wooden extension bridge, before described, for the purpose before described.

Sixth, the different parts of said machine, when combined, as forming in whole a machine so constructed as to work in opposite directions upon the same side of a given line or embankment without turning.

**71,748.**—C. C. HARE and S. J. HARE, Louisville, Ky.—*Hinging Tea Kettle Lids.*—December 3, 1867.—The pivoted lid has a curved slot, in which the ear traverses as the lid is swung.

*Claim.*—First, making a tea kettle with a swinging lid in two pieces, connected and operating as herein described.

Second, a swinging lid, having a curved or semi-circular slot *c* in the rim *b*, in combination with the ear *e*, the bail *d*, and the pin *a* of a tea kettle, arranged and operating as herein described.

**71,749.**—ISAAC J. HATTABOUGH, Santa Clara county, Cal.—*Field Derrick.*—December 3, 1867.—The pole is secured to cross sills below and braced by guy ropes above. The hinged arm is operated by a rope that runs through a pulley in the top of the pole. The caliper hay fork is elevated by rope and tackle attached to the arm and passing through a pulley on the sill, where it is attached to the whiffletrees.

*Claim.*—First, the double sheaves for the operating line.

Second, the pivots and plates at top and bottom of the pole for the guys and pole swivel.

Third, the combination of the sheaves H with the pivots to plates I I, in combination with operating rope E, pole A, arm B, adjuster D, guys J, to make a simple and complete combination for a derrick for field purposes, as described and substantially as set forth.

**71,750.**—C. AUGUSTUS HAVILAND, Davenport, Iowa.—*Fence.*—December 3, 1867.—The boards are slid down upon each other in the elongated slot of the post, forming a tight board fence which is capped by a board nailed on top of the posts. For an open fence, blocks are placed between the rails.

*Claim.*—First, the arrangement and combination of boards, blocks, and posts, in the manner and for the purpose herein set forth.

Second, the construction of a fence post with slot or aperture C, in the manner and for the purpose herein described.

**71,751.**—GEORGE H. HAWKINS, New York, N. Y.—*Pill and other Boxes.*—December 3, 1867.—Explained by the claim.

*Claim.*—Forming pill or other boxes of buckram, or other woven fibrous material, stiffened with starch or other glutinous material, and struck up into proper shape while moist or damp by means of hot metal dies, substantially as herein shown and described.

**71,752.**—JOSEPH HECKEL, Decatur, Ill.—*Composition for Coating Wooden Structures.*—December 3, 1867.—A fire and water proof covering for wooden structure, composed of china clay, 5 lbs.; oyster shell lime, 5 lbs.; borax, 1 lb.; litharge, 1 lb.; pulverized, mixed, and boiled in linseed oil.

*Claim.*—The composition above described, when compounded and used substantially as and for the purpose specified.

**71,753.**—ALEXANDER HEILBRUN, Cincinnati, Ohio.—*Stereoscopy.*—December 3, 1867.—The pic-

tures are attached to endless ribbons, and by the revolution of a shaft are fed consecutively into position to be viewed. Retiring from this position they are arranged in a rank, ready for the next presentation.

*Claim.*—First, the arrangement of the two shafts G and H, endless chains J, fingers L, arms Q R, roller O, and catches X, in the described combination, with the series of slides secured to one or more endless ribbons T, in the manner and for the purpose set forth.

Second, in the described combination the figures L, groove *h*, roller O, arms Q and R, and the catches X, for the purpose set forth.

Third, in combination with the elements of claim 1, the springs *g* for holding the slides to the under side of the open frame F.

Fourth, the guard or partition Z, curved upward at its front end, as and for the purpose stated.

Fifth, the hinged and folding foot *i*, having the bracket *j* and screw *k*, for the purpose set forth.

**71,754.**—D. W. HENDRICKSON, New York, N. Y.—*Manufacture of Iron.*—December 3, 1867.—Zinc and manganese are placed in the furnace, to be used with magnetic, brown or red hematites, bog or specular iron ores, with any suitable flux. Anthracite or bituminous coal, brown lignite, peat or charcoal are used as a fuel, in combination with a compound blast or superheated steam and hot or cold air, to be commingled in the tuyere chambers and discharged through the tuyeres into the bottom of the ore chamber of the furnace.

*Claim.*—The use of zinc or zinciferous ores, manganese or the franklinite ores as a flux or a mixture in iron furnaces, in combination with the compound blast of superheated steam and air for manufacturing iron suitable for the Bessemer process of and for manufacturing steel and other purposes, substantially in the manner and for the purpose herein set forth and shown in the accompanying drawings.

**71,755.**—D. H. HEYEN, New York, N. Y.—*Life Preserver.*—December 3, 1867.—The air tube attached to the body belt lies flat when not required for its special use, but is inflated to make it buoyant when occasion requires.

*Claim.*—The air tube B, in combination with the belt A, attached and arranged substantially as shown and described for the purpose set forth.

**71,756.**—JOHN J. HOFER, New Orleans, La.—*Nozzle for Fire Engines, &c.*—December 3, 1867.—The elasticity of the body of air in the bulb compensates to some extent for the uneven motion of the pump piston, and tends to make the stream uniform.

*Claim.*—An air chamber, in combination with the nozzle, constructed and operating substantially as and for the purpose described.

**71,757.**—J. B. HOFFMAN, Philadelphia, Pa.—*Dry Gas Regulator.*—December 3, 1867.—A cone is suspended within an opening in the top of the gas pipe, and its suspension rod is attached to the top plate of a bellows, which is inflated by the pressure of the gas, partially closing the opening when the pressure is extreme, and enlarging it as the pressure decreases.

*Claim.*—First, a bellows-like receiver H attached to a gas regulator, and connected to the valve of the latter, substantially as described, so that as the pressure of the gas varies the receiver will expand or contract, and the opening for the passage of the gas will be increased or diminished in size.

Second, the chamber I and its tight detachable cap *j*, arranged on the top of the regulator in respect to the weights *x*, as and for the purpose set forth.

**71,758.**—C. R. HOYT, New York, N. Y.—*Apparatus for Ironing Clothes.*—December 3, 1867.—The clothes are carried on the endless belt under the heated roller. The table is depressible to allow the passage of heavy articles.

*Claim.*—First, the ironing table B, whose free end rests upon the posts L and spring K, ironing roller D<sup>2</sup> upon shaft S, revolving in contact with the curved fire plate E<sup>2</sup>, fan blower W, and driving shaft P, all arranged as described for the purpose specified.

Second, the ironing table B pivoted to the frame A.



at one end, and whose outer end rests upon the posts L and spring K, as and for the purpose specified.

Third, the combination of the fan blower W with the yielding spring ironing table B, ironing roller D<sup>2</sup>, and fire pot B<sup>2</sup>, substantially as described for the purpose specified.

Fourth, the arrangement upon the frame A of the driving shaft P, pinion wheel Q<sup>2</sup>, shaft S, wheels R T U, fan blower W, grooved roller N, cord O, furnace B<sup>2</sup>, ironing roller D<sup>2</sup>, curved fire plate E<sup>2</sup>, yielding ironing table B, as herein set forth for the purpose specified.

**71,759.**—JOSEPH R. HUMPHREYS, Pennsville, N. J.—*Fire Heating Apparatus*.—December 3, 1867; antedated November 23, 1867.—The casing is arranged for the reception of the tire for application to a smith's forge so that the tires may be heated by the fire of the forge.

*Claim.*—The casing B and box A, constructed for the reception of a tire, and for application to a smith's forge, substantially as described.

**71,760.**—ELI HUNT, Shelburn, Ind.—*Washing Machine*.—December 3, 1867.—The clothes are placed in a slatted cylinder which rotates within the box, and the clothes are alternately lifted by the bars and dropped again into the water.

*Claim.*—An improved clothes washing machine, consisting of the open cylindrical clothes receptacle C, provided with the lifters *f* and rods *d* fitted within the cylindrical suds box A, the hinged doors in the hinged top of the suds box and cylinder, all constructed, arranged, and combined to operate as described and specified.

**71,761.**—REUBEN K. HUNTOON, Boston, Mass., assignor to himself and CHARLES S. LYNCH, same place.—*Steam Engine Governor*.—December 3, 1867.—The sectoral frame with its draw pawls has a constant, reciprocating, rotary motion, and when either of the pawls comes in contact with the ratchet it causes the ratchet shaft to rotate to actuate the steam valve. The rocker frame is actuated by the governor, and its cams bring one or other of the pawls in contact with the ratchet, according to the variation of the speed above or below the desired point.

*Claim.*—The arrangement and combination of the lever *e'*, rod *f'*, and weight *h'*, with shaft B, its propeller or propellers D, the vessel A, the ratchet *r'*, sectional frame *s*, the pawls *t u*, the rocker frame *b'*, and its cams or lifters *c' d'*, such ratchet being applied to a shaft *d*, and the whole being substantially as specified.

Also, the combination and arrangement of the oil receiver *e*, its eduction hole *e*, and air pipe *f*, with the governor, as described.

**71,762.**—EDGAR HUSON, Ithaca, N. Y.—*Windlass for Boats*.—December 3, 1867.—The metallic plate is supported on two oscillating standards. To the plate are attached two spring clicks, which actuate a ratchet wheel which forms a part of the drum around which the chain is wound. The lever is adjustable to one of the standards, and actuates the whole.

*Claim.*—First, making a boat windlass by the use of the slotted plate E about the shaft G, supported on the vibratory standards K and F, and having the clicks C and D, which act in the described manner on the ratchet or cog wheel B and head A, thus producing by both the forward and backward motions of the lever one and the same motion of the rope, cable, or chain, as described.

Second, the combined whole, made as figured and described, for the purpose of a convenient and useful windlass for boats and other similar craft, as described.

**71,763.**—ZENO KELLEY, New Bedford, Mass.—*Harpoon*.—December 3, 1867.—The rubber spring on the end of the shaft of the harpoon prevents the recoiling of the gun. A spiral spring around the shaft prevents the line from checking against the butt of the harpoon too suddenly. A stop in the pivoted blade secures it parallel to the shaft until released by the stop, being forced down by the entrance of the blade into the whale.

*Claim.*—The harpoon herein described, with rub-

ber spring C' on the end of the shaft, spiral spring D' on the shaft, and stop F' on the blade, and slide E on the shaft, or their equivalents, constructed and operating substantially as herein set forth and described.

**71,764.**—HENRY KEWLEY, Perry, Ohio.—*Hay Raker and Loader*.—December 3, 1867.—The machine is hitched behind a wagon; the hay is collected by the rake elevated by the tines of the traveling, endless apron, and discharged by the chute into the wagon.

*Claim.*—First, the raking device herein described, consisting of the series of movable and independent rake teeth S, rake head P, provided with apertures, side pieces O O, rail Q, journals R R, stop pins T, arm T<sup>2</sup>, and pendent rods T<sup>3</sup> T<sup>4</sup>, all arranged and operating as and for the purpose herein specified.

Second, the said raking device, constructed as herein described, in combination with the conveyers J provided with sets of tines K and bands I, as and for the purpose set forth.

Third, the pivoted apron or broad chute U<sup>1</sup>, constructed with a series of fingers U<sup>2</sup> and turned-up sides U<sup>2</sup>, supports U, and cords W, arranged and operating as and for the purpose specified,

**71,765.**—CHARLES KORN, Wurtsborough, N. Y.—*Apparatus for Leaching Bark*.—December 3, 1867.—The vat is divided into various compartments, which are connected in such a manner that the tanning liquid constantly circulates through the same in any required order.

*Claim.*—First, the vessel A when divided by means of partitions B B' into various compartments, which are connected by means of pipes H with a perforated trough G, the latter being also subdivided by means of partitions, substantially as set forth, all made and operating so that a constant circulation of the tanning liquid may be established between all the compartments, as herein shown and described.

Second, providing the partition of the trough G with gates, and the pipes and holes arranged in the bottom of the trough with plugs or valves, substantially as described, so that the contents of some of the compartments may be made to circulate, leaving those of the other compartments intact, as set forth.

**71,766.**—RUFUS LAPHAM, New York, N. Y.—*Inkstand*.—December 3, 1867.—The sponge or other absorbent in the reservoir holds the ink which is expressed by pressure into the dipping cup, and reabsorbed as the pressure is released.

*Claim.*—An instand, made substantially as described.

**71,767.**—SEBASTIAN LEONARD, Jr., Fairfield county, Conn.—*Portable Fence*.—December 3, 1867.—The feet of the posts are keyed in the sills and are supported by braces that are also keyed to the sills.

*Claim.*—The combination of the posts A B, the keys C and C', brace D, and cross ground sill E, all constructed and arranged substantially as and for the purpose described.

**71,768.**—THEODORE LEONARD, Paterson, N. J.—*Bleaching Vegetable Oils*.—December 3, 1867.—The oil, as it is being heated, is stirred by the open wings of the rotating shaft, and is bleached thereby.

*Claim.*—The vessel A, containing a revolving shaft E with wings D, or their equivalents, substantially as described, for the purpose of bleaching and preparing vegetable oils, as set forth.

**71,769.**—HENRY C. LEWIS, Miller township, Pa.—*Railroad Switch*.—December 3, 1867.—The rails that form the switch are arranged to afford a continuous track in the required direction. The switch rails are permanently secured to the tie at one end, while at the other they are secured in openings in an iron bar, so that they cannot spread, and so that they may be moved simultaneously.

*Claim.*—The chains provided with bolts, which pass into cross ties for securing the rails J K, and allow the same to be moved laterally, as and for the purposes set forth.

**71,770.**—HENRY LOMB, New York, N. Y.—*Eye-glass and Spectacle*.—December 3, 1867.—The glass



frames are bridged by a spring connection, and elastic bands fit upon the nose.

*Claim.*—The elastic bands or straps *a*, in combination with an eye-glass or spectacle frame, when such bands or straps are fastened to the frame only at or near their ends, and between such points are left free of the frame, with an opening or space between, substantially as described for the purpose specified.

**71,771.**—WILLIAM LOUDON, Fairfield, Iowa.—*Hoisting Machine for Stacking Hay.*—December 3, 1867.—Explained by the claims and illustration.

*Claim.*—First, in the construction of a hay elevating device, a derrick, composed of two flexible supporting frames, so arranged that they shall be extended sufficiently to allow a load of hay to pass through between them, or contracted so as to pass through an ordinary farm gate, substantially as described.

Second, supporting an elevated bar *B* by means of two independent supporting frames, one of which is securely braced to it, so as to impart sufficient rigidity, while the other is loosely pivoted, so that as the base of the derrick is extended or contracted, the inclination of the bar *B* will be varied, for the purpose of preserving the proper inclination of the bar on slanting ground, and to facilitate the labor of putting up or taking down, substantially as shown and described.

Third, in the arrangement for conveying the hay over the stack or other place where it is to be deposited, the combination of the travelling pulley *C*, provided with a frame which straddles the bar upon which it works, the latch *D* applied to the frame of the travelling pulley, and working into a notch or catch on the under side of the bar, as herein shown and described.

Fourth, placing the drum *G* in a frame *F*, connected to the derrick by joint or hinges *h*, so that in hauling or moving the derrick it may be turned over in the center, substantially as and for the purpose set forth.

Fifth, the pulleys *n m'* on the hoisting-power frame *L*, the pendent hook *s* on the sweep *p*, in combination with the pivoted arm *o*, all arranged to operate in the manner substantially as and for the purpose set forth.

Sixth, arranging the hoisting or elevating power *H* on the runners *i i* of the supporting frames, and securing it in this position to render the derrick rigid, substantially as herein shown and described.

**71,772.**—JOSIAH J. MACKAY, South Brooklyn, N. Y.—*Spring for Doors.*—December 3, 1867.—The double spring is attached to the door jamb, and retains the door when it is shut.

*Claim.*—The spring, constructed as described, of the parts *A B* secured to the door frame, substantially as described and for the purpose specified.

**71,773.**—JAMES W. MALOY, Boston, Mass.—*Pressure Gauge.*—December 3, 1867.—The flexible metallic diaphragm acts upon an index to show upon the dial the pressure of steam or gas. When suitably attached to a fire extinguisher, it denotes the state of preservation of the enclosed materials.

*Claim.*—First, the combination with a flexible diaphragm of the button *e* and stem *e'*, the lever *i k*, and spring *k'*, as specified.

Second, the combination of a single lever *i k*, rack *l*, sliding cross-piece *m* attached to the standard *g* and pinion *n*, as and for the purpose set forth.

Third, the standard *g* and the support *f* and cross-pieces *h*, in connection with the operative parts of the gauge, so constructed and arranged as to enable them to be easily removed from the casing *b* by simply unscrewing the ring *s*, substantially as set forth.

Fourth, the attachment of a gauge to the top plate of a fire extinguisher, substantially as specified.

**71,774.**—JARED MARIS, Athens, Ohio.—*Wagon Wheel.*—December 3, 1867.—The tenons meet in the groove in the hub and are filled behind the shoulders by triangular keys. The closely-ranged radial attachments beyond the hub are keyed together.

*Claim.*—First, the groove in the hub into which the spokes are fitted.

Second, the manner of fitting the spokes together in a solid ring by tongue and groove.

**71,775.**—MORRIS MATTSON, New York, N. Y.—*Apparatus for Hand and Yoke Lifting.*—December

3, 1867.—The machine is portable, has no necessary connection with the floor or ceiling, and is used without changing the apparel by persons of either sex. Devices explained by the claims and illustration.

*Claim.*—First, in combination with mechanism or apparatus adapted for hand or yoke lifting, singly or together, the use and application of a platform scale, operating substantially as and for the purposes set forth.

Second, the application and arrangement, in machines or apparatus for hand and yoke lifting, of the crescent *b b*, or its equivalent, with suitable handles *b' b'*, in combination with the standard *B*, substantially as and for the purposes set forth.

Third, so connecting such crescent *b b* and its standard with any base or support by a male and female screw, or their equivalent, that the crescent can be raised or lowered, for the purposes set forth.

Fourth, the construction and arrangement of the adjustable yoke *E*, substantially as and for the purposes set forth.

Fifth, in combination with such a yoke, or its equivalent, the arrangement of the ring *F* and variable chains *G*, substantially as and for the purposes set forth.

Sixth, in combination with a yoke *E* for lifting, the arrangement of the adjustable hand rests *I I*, substantially as and for the purposes set forth.

Seventh, the combination, with a platform scale, of mechanism or apparatus for hand and yoke lifting, singly or together, when constructed as described, and for the purposes set forth.

**71,776.**—JABEZ MAUNTON, New York, N. Y., assignor to himself, WRIGHT DURYEA, WM. ENNIS, J. H. VAN RIPER, A. P. CUMMINGS, and J. WENDELL COLE, same place.—*Furnace for Roasting and Reducing Ores.*—December 3, 1867; antedated November 27, 1867.—The reducing chambers have an intermediate, vertical fuel chamber and passages so arranged that the combustion is kept up at the base, and the blast is made to pass alternately through the masses contained in the respective chambers.

*Claim.*—First, the combination, in connection with a reversible draught in or through them, substantially as described, of reducing chambers *E E*, and an intermediate fuel chamber *F*, severally chargeable from above, and communicating with each other at or near the base, essentially as and for the purpose or purposes herein set forth.

Second, the combination with a reversible draught, essentially as specified, of regenerators *D D*, reducing chambers *E E*, and fuel chamber *F*, connecting with the reducing chambers by passages at or near their base, and chargeable, as well as the reducing chambers, from above, for operation as herein set forth.

Third, in combination with a reversible draught and fuel and reducing chamber or chambers, the vertical regenerators *D D*, having their inlet and outlet passages connecting with the draught arranged below, substantially as described.

Fourth, the connection of the reducing chambers *E E* with each other by a covered passage *G*, arranged to pass through an intermediate fuel chamber, essentially as herein set forth.

Fifth, the arrangement, in connection with the reducing chambers *E E*, of an air pipe or passages *J*, arranged to connect said chambers at or near their top, substantially as and for the purpose specified.

**71,777.**—CHARLES E. MICHEL, St. Louis, Mo., assignor to FREDERICK VON PHUL, same place.—*Mineral Water.*—December 3, 1867.—Made in the ordinary soda-water apparatus. A quantity of ferum redactum is added to the water to give it a chalybeate quality.

*Claim.*—The mode of producing carbonated chalybeate water, herein above described, it being an artificial chalybeate water, containing the carbonate of the protoxide of iron.

**71,778.**—GEORGE W. MILES, Philadelphia, Pa.—*Mosquito Net in Window Blinds.*—December 3, 1867.—The netting is attached between the slats, so that when the blinds are opened insects are excluded.

*Claim.*—The compound window-blind slats *B B*, in combination with the mosquito netting *b b*, constructed, arranged, and operating substantially as and for the purpose herein described.



**71,779.**—GEORGE J. NEVEIL, Philadelphia, Pa.—*Retaining and Releasing Hook.*—December 3, 1867.—The weight on the hook drawing down on the central pivot of the lever enforces the retention of the hook by the clasp until, being relieved of the weight, the weighted end of the lever withdraws the clasp.

*Claim.*—The construction and arrangement of the hanger A, link e, and hook f, substantially as and for the purpose described.

**71,780.**—M. V. NOBLES, Elmira, N. Y., assignor to himself and JOHN C. NOBLES, Rushford, N. Y.—*Apparatus for Exterminating Vermin.*—December 3, 1867.—The heated noxious gases are discharged by the action of the fan into the articles containing the vermin to be destroyed.

*Claim.*—First, the fan blower A, the furnace F, and the vessel G, with the parts thereunto connected, arranged, combined, and operating substantially as described, for the purpose specified.

Second, forcing a current of heated gas, vapor, or air, either with or without annihilating powders, or other substances in combination therewith, from the vessel G, or its equivalent, substantially as and for the purposes described.

**71,781.**—ALONZO NORRIS, Spenceer, N. Y.—*Water Elevator.*—December 3, 1867.—Pressure on the treadle raises the valve in the pipe, and with it the water. By removing the pressure the valve retires into the reservoir.

*Claim.*—The reservoir A, movable bottom D, and valve plug E, all combined and arranged together, substantially as and for the purpose described.

**71,782.**—HARRISON OGBORN, Richmond, Ind.—*Candlestick.*—December 3, 1867.—A match-safe is formed in the stem of the candle socket, and the partition between the socket and the match-safe is perforated to allow circulation of air to reduce the heat when the candle burns down into the socket.

*Claim.*—First, the hinged part a, provided with the match-box C, fitting into the body A of a candlestick, substantially as described.

Second, the holes i, in combination with the partition d of the body A of a candlestick, substantially as and for the purposes described.

Third, the combination of the hinged part a, box C, partition d, holes i, and spare end D with the body A of a candlestick, substantially as and for the purposes described.

**71,783.**—STOUGHTON PETTEBONE, Niagara Falls, N. Y.—*Method of Saving and Utilizing the Alkaline Liquors Used in Treating Straw, Wood, &c.*—December 3, 1867.—Explained by the claims.

*Claim.*—First, the saving and utilizing of the alkali liquor, after it has been once used, (employed by paper manufacturers in subduing or subjecting straw, wood, or other fibres,) by transferring the same from one boiling rotary or vessel to another, and strengthening it by the addition of fresh alkali liquor, substantially as above stated, instead of recovering the soda-ash from the waste liquor by a separate process well known to the trade, or wasting it absolutely, as is generally practiced.

Second, the mode above indicated of transferring the said alkali liquor from one rotary to another, while hot, by forcing the same under and by the pressure of steam used in boiling the material, substantially as above described.

Third, as another mode of accomplishing the same result, the use of the principle of a vacuum, formed in the vessel or rotary to which the said waste alkali liquor is to be transferred by means of an air-pump, and thus transferring the liquor and steam by atmospheric pressure, substantially as above described.

Fourth, the saving of the waste alkali liquor by transferring the same into a receiving tank or vessel, to be used over again in boiling paper stock, substantially in the manner above indicated.

**71,784.**—STEPHEN C. PHILBRICK, Rockville, Conn.—*Wool Carding Machine.*—December 3, 1867.—A supplementary roll is introduced on the upper side of the filleting roll. The position of the clothing is reversed from the usual mode, so that as the wool passes through the feed rolls it is held by the top roll and combed off by the burr cylinder. The top roll is

kept clear, by the additional roll that thus acts as a cleaner.

*Claim.*—The rolls G F, in combination with the rolls herein described, attached to a first breaker-card, all constructed, arranged and operating as set forth.

**71,785.**—I. S. PICOTT, Central Station, West Va.—*Log Wagon.*—December 3, 1867.—The pendent jaws that swing from the vertical frame clasp the timber, when placed in position while the tongue is raised; by pressing down the tongue the log is elevated and swung into position.

*Claim.*—The log-wagon, constructed as described, having the frame B upon the axle A, and provided with the dogs grasping the timber, all operating as described, whereby the depression of the tongue D raises the timber and places it upon the axle A, and within the frame B, as herein described, for the purpose specified.

**71,786.**—JOHN POPPE, Green Point, N. Y.—*Rotary Pump.*—December 3, 1867.—The water enters the circular channel immediately ahead of the valve plate and is carried round by the rotary piston head to the discharge pipe.

*Claim.*—First, the combination of the flanged plates  $a^1$  and  $a^2$  of the case A, interior gear-wheels B and E, and piston-head H, with each other, said parts being constructed and arranged substantially as herein shown and described, and for the purpose set forth.

Second, the combination of the valve L operated from the drive-shaft F, to allow the piston-head H to pass, and dropping again into place in the rear of the said piston-head, to close the passage G, substantially as herein shown and described.

Third, the combination of the gear-wheel V, gear-wheel T, having a projection or cam X formed upon its side, and vertical sliding or lifting bar P, having an inclined shoulder  $p'$  formed upon its side for the cam to operate upon, with each other and with the drive-shaft F and valve L, substantially as herein shown and described, and for the purpose set forth.

**71,787.**—THOMAS L. REED, Providence, R. I., assignor to ATLANTIC TUBING COMPANY, same place.—*Composition for Preserving Animal Intestines.*—December 3, 1867; antedated November 21, 1867.—The intestines are preserved in a flexible condition, as a gas-resisting coating for flexible tubing, by means of glycerine combined with either one or more of the following: molasses, flour, gum tragacanth, or gum arabic.

*Claim.*—The use of glycerine and the several commodities herein enumerated in compound, substantially as and for the purpose specified.

**71,788.**—JOHN P. REYNOLDS, Mirabile, Mo.—*Horse Holder.*—December 3, 1867.—The horse is raised by a wide belly-band that is connected to and operated by pulleys above. The foot to be shod is secured to a sliding post that runs in a groove on the floor.

*Claim.*—First, the construction of the holder for horses consisting of the wide body-band M, having the front and rear straps N D, the upper ends of the body-band M secured to the platform having the central post J, passing loosely through the cross-bar C, and elevated by means of the pulleys K, rope L, and windlass P, all arranged and operating as herein described, for the purpose specified.

Second, the swivelled rest-blocks for the horse's hoofs, arranged in grooves or ways, substantially as described.

**71,789.**—E. B. REQUA, Jersey City, N. J.—*Lamp Chimney.*—December 3, 1867.—The flame is expanded by the concave inner sides of the chimney.

*Claim.*—A lamp chimney of flat form, or wider in one direction than in the other, with the flat sides made concave, and the upper part of the chimney, above the lower bulb part, made with a gradual taper, substantially as herein set forth.

**71,790.**—FRANCIS ROACH, Boston, Mass., assignor to himself and JOSEPH ZANE, same place.—*Basin Faucet.*—December 3, 1867.—The interior working portions fit within the stand pipe screwing into a



projecting ridge just below the discharge point. The rotation of the handle depresses the valve stem, and the valve is restored to its seat by a spiral spring below.

*Claim.*—First, the combination and arrangement of the valve-seat case or the head-extension R and its cap H with the faucet-body F, the valve A, its operative screw G and spring c.

Second, the combination as well as the arrangement of the valve-case D with the valve-seat case R, its cap H, the faucet-body F, the valve A, its operative screw G, and spring c, the whole being constructed substantially in the manner and so as to operate as specified.

**71,791.**—CLARK ROBINSON, Rochester, Minn.—*Scaffold.*—December 3, 1867.—Two uprights are secured to a horizontal frame the inner sides of which have ratchets engaged by spring bolts that are secured to the platform. The platform is elevated by a windlass with its connecting ropes and pulleys.

*Claim.*—First, the uprights A when provided with notches a a, in combination with the spring-bolts F and lever e, for the purpose of supporting the platform and for lowering the same when required.

Second, the windlass E, in combination with the frame A, platform D, and spring-bolts F, all made and operating substantially as and for the purpose herein shown and described.

**71,792.**—ANDREW ROYSE and MATTHIAS K. MORRIS, Le Roy, Pa.—*Hay Raker and Loader.*—December 3, 1867.—The rake teeth are hinged to the main frame by levers, and hold the hay till picked up by the elevator that raises it and discharges it on to the load. The elevator is held at its regulated height by hooks that are pivoted to the side pieces, and engage in the semicircular ratchet bar.

*Claim.*—First, in combination with the rake teeth hinged to the main frame by levers E E', the slotted and shouldered standards G G' for guiding the rake in its rising and falling motions, and sustaining it from going too low, substantially as described.

Second, in combination with a rake for gathering the hay, a conveyer for taking and carrying up the hay, when used with teeth that are thrown out of and drop into said conveyer, first to take and carry up and then to deliver the hay, substantially as described.

Third, in combination with carrying teeth that are projected from and drop within the conveyer the metal bed g for guiding and holding the teeth, substantially as described.

**71,793.**—GEORGE H. SANBORN, Boston, Mass.—*Machine for Cutting Paper.*—December 3, 1867.—The knife is hung to parallel oscillating bars, and is actuated by connection of one end to a crank beneath the table. The table has a gauge rod sliding on an index rod attached to the frame, to indicate the distance of the guide plate from the knife.

*Claim.*—First, operating the knife by connecting it with the crank X, in the manner described.

Second, in a paper cutting machine, the combination, with the gauge, of rod r, index t, and graduated scale s, in the manner and for the purpose set forth.

Third, the arrangement of gearing herein described for regulating the speed of the knife, giving it a slow movement on its downward stroke, and a quick movement on its upward stroke, as set forth.

**71,794.**—JARED W. SANFORD, Byron, Ill.—*Cultivator.*—December 3, 1867.—The standards carry tools to each end, so that by inversion of the implement the plows or the hoes and rollers can be brought into action.

*Claim.*—First, the adjustable standards B attached to the plow beams A and braced by bars D D', in the manner substantially as and for the purpose herein set forth.

Second, the attaching of the plows or shares E to the standards B by having the former at the lower ends of cylindrical rods c, fitted in staples d at the front sides of the standards, substantially as and for the purpose specified.

Third, the combination of the hoe, rake, and roller, with a cultivator, when all are constructed, arranged, and applied to admit of either the plows or the hoe,

rake, or roller, being used by simply inverting the implement, as set forth.

**71,795.**—FREDERICK G. SARGENT and NORMAN H. BRUCE, Graniteville, Mass.—*Tag.*—December 3, 1867.—The cross wire around which the tie is passed is enclosed by and glued fast in the folded end of the tag.

*Claim.*—The application to the cross metal wire or band C, or its equivalent, of a coating of suitable material for uniting such band with the card paper of a tag, substantially as described.

**71,796.**—ABRAM SCHENCK, Ovid, Mich.—*Grain Separator.*—December 3, 1867.—The grain is exposed to a series of suction blasts as it passes from hopper to flue, and thence to hopper, &c., consecutively. The pans revolve in the conductors and draw through the latter the impurities and wild seeds mixed with the grain as it falls through the series of flues.

*Claim.*—The combination of the frame A with the cross-beams B B, the shaft C, the hubs D D D, and the wings I I I of the fan, the pulley E, the hoppers F M<sup>1</sup> M<sup>2</sup> M<sup>3</sup>, the flues N N N, the conductors O O O, the depressed boxes K K K, the bottom valves L L L, the weights and cords J J J, and the valves G G G, or their equivalents, all arranged substantially as described for the purpose designed.

**71,797.**—ANSON SEARIS, San Francisco, Cal.—*Wooden Wagon Spring.*—December 3, 1867.—The bent, wooden springs are attached to and connect the axles, and, extending upwardly, bow inward and support the buggy bed.

*Claim.*—An endless wood spring and perch in combination, substantially as set forth and described.

**71,798.**—DANIEL D. SHERWOOD, Boston, Mass.—*Machine for Bundling Wood.*—December 3, 1867.—The jaws are closed by the pivoted levers that are actuated by the treadle with the assistance of the hands, and when the attachment is effected they are released by the spiral springs.

*Claim.*—In combination with the table c, the hinged jaws f, having bolts for confining them together and springs for throwing them apart, arranged substantially as and for the purpose set forth.

Also, the arrangement of the two sets of jaws with the shelf or shelves, and space between, substantially as shown and described.

Also, in combination with the lower jaws and their expanding springs, the treadle, arranged to bring them together, substantially as described.

**71,799.**—A. M. SHURTLEFF, Boston, Mass.—*Saliva Pump.*—December 3, 1867.—The robust, upper end of the pipe has a rose head to take up the saliva. A compressible bulb and two valves form the operative mechanism.

*Claim.*—Combining with the suction or mouth-piece of the saliva pump, an elastic valvular pump or bulb, connected at one end to the mouthpiece by a rigid tube, and having attached to its opposite end a flexible pipe leading to the saliva vessel, substantially as shown and described.

Also, making the induction or suction end of the pump of hard rubber, or equivalent material, substantially as described.

Also, so connecting the discharge pipe with the saliva vessel, by means substantially such as described, that it cannot be withdrawn therefrom by the working or movements of the pump.

**71,800.**—THOMAS A. SLACK, Peoria, Ill., assignor to himself and CHAUNCEY NYE, same place.—*Hand Truck.*—December 3, 1867.—The shovel is so connected to the truck that the blade is made to enter beneath a package by pressure of the foot on a cross bar. The package is also held by a serrated bar on the truck, and lanted upon it in the usual manner.

*Claim.*—First, the teeth or projections upon the forward end of the body of the truck.

Second, the adjusting shovel provided with the blade h, the side piece B, the slot d, the projection e, the foot guide a, and the cross bars c and i.

Third, the axle or pivot bar b, when all shall be constructed, combined, arranged, and operated as and for the purpose set forth and described.



**71,801.**—S. W. SLOCUMB, Albany, Ill.—*Wagon Hub*.—December 3, 1867.—Improvement on his patent June 25, 1867. The spindles have brass blocks or anti-friction rollers to receive the impact of the hub.

*Claim.*—First, in combination with the hub A, formed with an internal annular projection A', two spindles C C', and the axle B, when the latter is attached to the spindle in front of their centers, substantially as and for the purpose set forth.

Second, the spindles C and C', when attached to the axle, as set forth, and formed with a bearing D or friction roller E, substantially as set forth.

Third, the spindles C and C', when their sides are constructed with curves of different radius, and they are arranged to operate substantially as and for the purpose set forth.

**71,802.**—GEORGE P. SMITH and JOHN DESSO, Lake City, Minn.—*Wagon Brake*.—December 3, 1867.—The tongue has sliding movement in the bounds, and is connected to a bar pivoted beneath the fore axle and connected to the brake bar. The backward movement of the tongue in descending a hill sets the brake in operation.

*Claim.*—The bar G, pivoted to the under side of the front axle, and provided with a slot for the bolt J and a series of holes through which the bars or rods H and F connect with it, for operating the brake blocks through their bar D, as and for the purpose set forth.

**71,803.**—LEVI F. SMITH, Philadelphia, Pa.—*Low Water Indicator*.—December 3, 1867.—The fusible disk is retained in place by a washer through whose sectoral openings it is allowed to escape when fused by steam of a given heat, which reaches it through the stand pipe.

*Claim.*—The arrangement of the part D, recess a, washer C, cross-bars e, pipe A, and whistle B, substantially as herein set forth.

**71,804.**—SAMUEL A. SMITH, Monroe, Wis., assignor to himself and EDWIN W. WOODMAN, same place.—*Bed Bottom*.—December 3, 1867.—The transverse slats are secured on the arched springs that are attached to wooden cross springs at the ends of the bedstead. The arched springs are adjusted laterally by spiral springs.

*Claim.*—First, the end springs A A, in combination with rods C C, substantially as described.

Second, the coil springs d d, rods C C, springs A A, slats D D, and webbing f f, all combined substantially as specified.

**71,805.**—E. SOPER, New York, N. Y.—*Carriage*.—December 3, 1867.—Explained by the claims and illustration.

*Claim.*—First, the front perch K, secured or swivelled to the top bed and back bar, or either, and pivoted with its rear end or ends to ears g g, which project from the under side of the carriage body, substantially as herein shown and described.

Second, the combination of the front perch K, when the same is made and operating substantially as herein shown and described, with the ears g, back bar J, top bed F, and C-springs M, all made and operating substantially as set forth.

Third, the king bolt I, when formed on and suspended from the under side of the upper transom plate, substantially as herein shown and described.

Fourth, the oil hole c in the upper transom plate, when arranged as described, to convey oil to the king bolt, which is suspended from and formed on the upper transom plate, substantially as herein shown and described.

**71,806.**—JACOB SPOONHOUR, Green Township, Pa., and SAMUEL R. BOYD, Chambersburg, Pa.—*Bridle Bit*.—December 3, 1867.—The side pieces are connected to the stiff bit by pins, and the bridle-ring clasp has an anti-friction roller traversing a bar of the side piece, which acts as a curb bit when the rein is sufficiently drawn.

*Claim.*—The elliptical-shaped side piece, marked A, the clasp or bearing, marked B, the roller, marked C, and the screw or rivet, marked D, as represented and hereinbefore explained and set forth.

**71,807.**—W. H. STAATS, Crescent, N. Y.—*Rail-road Switch*.—December 3, 1867.—The switch bars are hinged and kept in position by springs, so that when the switch has been set to turn a train onto the side track, another train on the main track coming in the contrary direction will have free passage without unsettling the switch.

*Claim.*—The combination of the shifting bar D and hinged switch bars C, arranged to operate in relation to the rails of the track and siding, substantially as set forth.

**71,808.**—EDWARD STEINEL, Amsterdam, N. Y.—*Spring Bed Bottom*.—December 3, 1867.—The slats are supported on transverse bearers that are elevated on spiral and rubber springs. The hinged head piece is supported in an elevated position when required.

*Claim.*—First, the bolts c and segmental eages e, in combination with the springs B, substantially as and for the purpose described.

Second, the C-springs i and hinged braces k, in combination with the head piece H, constructed and operating substantially as and for the purpose described.

**71,809.**—FRANCIS A. STERRY, Canton, Mass.—*Spindle Bolster*.—December 3, 1867.—Explained by the claims and illustration.

*Claim.*—First, the absorbent or strainer in the bolster B, consisting of rings fitting snugly around the slotted central part of the bolster, and placed in the annular recess a, and of less diameter than said recess, whereby the lubricant surrounds the circumference only of the absorbent and is strained through said absorbent to the spindle, as herein shown and described for the purpose specified.

Second, in combination with the absorbent or strainer, as described, placed in the recess a, the screw cup D fitting air tight upon the top of the bolster, whereby a valve is produced, which, by screwing up or unscrewing, regulates the quantity of oil to be strained through the absorbent to the spindle, as herein set forth for the purpose specified.

**71,810.**—A. W. STEWART, Middletown, Ohio.—*Composition for Polishing Knives*.—December 3, 1867.—Equal parts of flour, emery, pulverized lava or rotten stone, and plaster of paris, mixed with an equal quantity of pulverized soapstone. It is applied with a cork wetted in an alcoholic solution of bicarbonate of soda and tartaric acid.

*Claim.*—The polishing powder, consisting of equal parts of the articles specified, when applied and used with the prepared cork, in the manner and for the purposes described.

**71,811.**—UZZIEL STEWART, Berlin, Wis.—*Mill Pick*.—December 3, 1867.—The bottom of the tool socket consists of the end of a sliding bar, which has a series of transverse key seats for adjustment within the head to compensate for wear in the tool. The tool is tightened in the socket by a side plate and set screw.

*Claim.*—The stock A, in combination with the grooved plate E, key F, plate C, and set screw B, all constructed and arranged to secure the cutter in the stock, substantially as shown and described.

**71,812.**—JAMES ST. JOHN, Stamford, Conn.—*Folding Glasses for Plants, Hot Beds, &c.*—December 3, 1867.—The glazed frames are hinged at the top so as to be opened when necessary. When closed, the flexible ends fit closely to the frames.

*Claim.*—First, the two glasses, hinged or pivoted together, and furnished with the flexible end pieces, substantially as and for the purpose specified.

Second, the combination of the glasses B, hinged frames or sashes A, and flexible end pieces, substantially as and for the purpose specified.

**71,813.**—THOMAS STONE, Plainfield, Ind.—*Brick Machine*.—December 3, 1867; antedated November 23, 1867.—The pug-mill shaft carries a bevel wheel which engages two bevel wheels on pressure rollers beneath. These rollers serve to press the clay into the molds, and have spur gears which engage racks on the mold-box edges. The mold boxes traverse on anti-friction rollers in frames supported on rubber blocks.



*Claim.*—First, the rollers I I operated from the mud-mill shaft C by means of the gearing G H H, in combination with the molds F, operated from the rollers I I by the toothed rims *d*\* and rakes *e*, all arranged substantially as and for the purpose described.

Second, the roller frames L, carrying their molds, when placed on springs *f*, when used in connection or combination with the rollers I I, substantially as and for the purpose set forth.

**71,814.**—ANTON STREIT and HENRY STREIT, Cincinnati, Ohio, assignors to I. A. FAY & Co., same place.—*Wood-planing Machine.*—December 3, 1867.—The friction is reduced by the insertion of a glass plate beneath the cylinder.

*Claim.*—The removable glass facing C of the bed of a wood-planing machine, when constructed and applied substantially as and for the purposes described.

**71,815.**—J. B. SWEETLAND, Pontiac, Mich.—*Corn Harvester.*—December 3, 1867.—The reels are rotated by belts from the axle, and carry the stalks between the shears, the moving jaw of which is oscillated by a cam on the axle. The cam impinges upon an anti-friction roller of the jaw. The corn falls upon a tilting platform from which it is discharged.

*Claim.*—First, the frame A, with axle B, ratchets K K, and pulleys M M, arranged for operating the spring knives G G and reels F F, in the manner and for the purposes set forth.

Second, the knives G G, in combination with the L-shaped knives H H, reels F F, guides *d*, and springs *b b*, or their equivalents, all constructed, arranged, and operating substantially as and for the purposes herein set forth.

**71,816.**—J. B. SWEETLAND, Pontiac, Mich.—*Harvester Rake.*—December 3, 1867.—The rake is hinged to an arm which is pivoted to a standard, and actuated by a pin in the upper side of a crown-gear wheel. The pin traverses a slot, and the rotation of the wheel causes the oscillation of the rake arm. At the end of the operative stroke the inner end of the rake arm passes down through a slot in the platform and the head is raised for the return stroke, at the end of which the mechanism is automatically thrown out of gear. The mechanism is thrown in gear, at the proper time, by a treadle.

*Claim.*—First, rake H and arms G and F, used with the wheel D and platform B, and operating substantially as and for the purpose set forth.

Second, the guide P and pallet Q, arranged in combination with the arms F and G and platform B, all constructed and operating as specified.

Third, the arrangement of foot piece Y with the bars O and N, rod L, lever M, and sleeve K for throwing the rake in gear at the time the grain is dropped, substantially as herein represented.

**71,817.**—JOSEPH TEMPLE, Terre Haute, Ind.—*Cutter Head for Dressing Moldings.*—December 3, 1867.—Explained by the claim.

*Claim.*—A molding cutter composed of a series of revolving disks, each one of which has on its cutting edge the form of the section of the molding to be cut, the several disks that form the series so arranged that, as a whole, they form a complete cutter to cut the molding, all constructed to operate substantially as described.

**71,818.**—JOSEPH TEMPLE, Terre Haute, Ind.—*Stitching Clamp.*—December 3, 1867.—The jaws are curved to properly embrace a round rein which is supported by the tongue, adjustable by set screws passing through lugs on one of the jaws.

*Claim.*—First, the jaws A and B, constructed substantially as represented, hinged together and operated upon by means of spring G, as and for the purpose set forth.

Second, the tongue C, used in combination with the jaws A and B, and regulated substantially as and for the purpose set forth.

**71,819.**—CHARLES M. THEBERATH, Newark, N. J.—*Harness Mounting.*—December 3, 1867.—The metallic lining of the check hook is secured by a screw cap.

*Claim.*—The end of the hook A and lining B provided with a screw thread, upon which the top D, is

screwed to retain said lining in position against the hook, as herein shown and described.

**71,820.**—NATHANIEL THOMPSON, Farmington, Mich.—*Device for Transmitting Motion.*—December 3, 1867.—The ratchet racks of the longitudinally reciprocating vibrating frame are brought in engagement with each side of the ratchet wheel alternately, to cause its rotation.

*Claim.*—First, the arrangement of the parts A B, parallel bars *b b*, racks *c c*, slide C, pinion D, with its shaft E, plate F, and rod *k*, as herein described for the purpose specified.

Second, giving the lateral oblique movement to the part B of the frame by means of the oblique slots *f h*, and the bolt *e*, and projection *g*, working respectively therein, the bar *k*, connected with the slide C, and the projection *g* of the part B, substantially as and for the purpose set forth.

Third, the spring *n*, arranged or applied substantially as shown, to exert a pressure on the bar *k*, and the bent rods *o o*, arranged in relation with the spring *n*, projection *g*, and the ends of the oblique slot *h*, to relieve the bar *k* of the pressure when required.

**71,821.**—WALTER T. THORNTON, Belleville, Mich., assignor to himself and ALEXANDER D. WRIGHT, same place.—*Adjustable Seat Fastener.*—December 3, 1867.—The supporting standard is adjusted and retained by the dog which engages in the teeth of the rack.

*Claim.*—The construction of a wagon-seat fastening, substantially as described, with plate A, projections B B, &c., cap C, rack D, provided with seat rest E, the catch F, and the spring G, or their equivalents, for the purpose set forth.

**71,822.**—EZEKIEL TRACY, Kansas City, Mo.—*Burglar Alarm Door Lock.*—December 3, 1867.—The bolt has a projection upon its upper side, which raises a catch bolt from a notch in the escapement detent bolt when the door is unlocked. This frees the alarm.

*Claim.*—The combination of the lever bar B and supplementary bolt Q, when arranged between the mechanism of a lock and a suitable alarm, for operating substantially as and for the purpose described.

**71,823.**—BENJAMIN WALKER, Greenpoint, N. Y.—*Forge Hammer.*—December 3, 1867; antedated November 23, 1867.—Without changing the run of the driving gear, or altering the velocity of the hammer, its altitude is adjustable to suit the requirements of the work. The motion of the hammer is arrested at pleasure. The air chamber with its valve operates as an elastic check to the hammer toward the close of its upward stroke, without producing suction to form a drag on its descent.

*Claim.*—First, the combination with a power-hammer, having a spring or elastic and flexible device interposed between the driving gear and hammer proper to operate the latter, of mechanism consisting of the lever K, slide J, rod I, and spring *m*, or their equivalents, for changing the position of the fulcrum of said flexible device to vary, while at work, the stroke of the hammer without altering its velocity, all constructed and arranged substantially as specified.

Second, the arrangement and combination of the lever K, slide J, provided with crooked slot *s*, rod *t*, and bar *u*, for action on the friction block *r*, substantially as and for the purpose set forth.

Third, the cylinder or chamber H, with its valve *k*, in combination with the hammer stem, all constructed and arranged for operation together, substantially as and for the purpose specified.

Fourth, the combination of the screws *v* and bolts *x* with the key or wedge M and tongue *w*, for holding and adjusting the anvil, as herein set forth.

**71,824.**—ANTHONY WALLACH, New York, N. Y., assignor to himself and ADOLPH WALLACH, same place.—*Safety Hook for Watch Chains.*—December 3, 1867.—The jointed portion is so pivoted as to swing sideways, and is retained in its closed position by the milled nut which traverses the threaded shank.

*Claim.*—The tongue *i*, attached to the shank *b* by the pin *o*, so as to turn aside from the hook *c*, in combination with the nut *d*, as and for the purposes specified.



**71,825.**—SAMUEL H. WALLIZE, Washingtonville, Pa.—*Brake for Sled.*—December 3, 1867.—The drag bar is pivoted to the tongue roller, and carries at the rear end a brake dog. It is operated by a hand lever.

*Claim.*—The construction and arrangement of the levers H K and M with their rollers L and N, when combined with the drag bar D, and operating the brake G, as herein described and for the purposes set forth.

**71,826.**—GEORGE WANIER, New York, N. Y., assignor to himself and FRANZ WANIER, same place.—*Plumbers' and Painters' Lamp.*—December 3, 1867.—The alcohol furnishing the vapor for the blow-pipe is contained in the retort above the lamp.

*Claim.*—First, the lamp vessel B, provided with a pipe D, in combination with a lamp A and case C, all arranged and operating substantially as and for the purpose specified.

Second, the lower stand C, in which the lamp A is placed, in combination with the upper stand C and vessel B, constructed and arranged substantially as and for the purpose specified.

Third, an automatic blow-pipe, made to blow alcohol or other steam through the flame of a lamp, the steam being created by the same flame through which it is forced, substantially as herein shown and described.

**71,827.**—J. B. WEBSTER and ROBERT BAXTER, Stockton, Cal.—*Plow Wheel.*—December 3, 1867.—The faces of the usual cast plow wheel are boxed up to prevent introduction of weeds and dirt.

*Claim.*—The board or plates *a*, Fig. 1, in combination with the wheel, as and for the purpose hereinbefore described.

**71,828.**—GEORGE WELLS, Bethel, Conn.—*Door Holder.*—December 3, 1867.—Pressure of the foot on the pivoted plate actuates the segment gear and the pinion; the motion communicated to the eccentric depresses the bolt and brings it in contact with the floor to hold the door in position.

*Claim.*—First, the bolt or fall C and pad D, operated in the manner and for the purpose set forth.

Second, the foot lever A, in combination with the eccentric or cam B, or an equivalent thereof, to operate the bolt or holder C, for the purpose substantially as described and shown in the drawings.

**71,829.**—H. WILLARD, Grand Rapids, Mich.—*Horse Hay Fork.*—December 3, 1867.—The worm screw is connected by a spiral shank with a drawing handle, so arranged that the fork screw shall enter the hay when operated on by horse-power to hoist it up, and is released by pulling on a hand rope.

*Claim.*—An improved horse hay fork, having a worm screw A on a spiral shank *a*, in combination with a handle B, arranged and operating substantially as herein described.

**71,830.**—HUGH WILLIAMSON, New York, N. Y.—*Concentric Celestial and Terrestrial Globes.*—December 3, 1867.—By the concentric arrangement of the celestial and terrestrial globes they are adapted for the elucidation of the problems now demonstrated by the use of separate globes. The terrestrial globe is hung in the center of the celestial, which is transparent and has the constellations represented upon it.

*Claim.*—First, the terrestrial globe G, hung within and having the same axis and center with the celestial globe C, in manner substantially as above set forth and described.

Second, as a new article of manufacture, a transparent celestial globe, made of two hollow hemispheres C C', having the constellations upon them, and the line N of the ecliptic, and the equinoctial and solstitial colures L and M, when such hemispheres are adapted to receive the terrestrial globe and universal horizon, and with the line of their junction forming the celestial equator, as herein shown and described.

Third, the universal horizon H, suspended from the forked arms I of the axis D, in manner and for the purposes substantially as above set forth and described.

Fourth, the terrestrial globe G and universal horizon H, in combination with the transparent celestial

globe C, in manner and for the purposes substantially as above set forth and described.

**71,831.**—BENJAMIN WITHERELL, Charlestown, Mass.—*Corn Cake Mold.*—December 3, 1867.—The frame enters a rabbet in the edge of the bed. The follower has two series of adjustable knives at right angles to each other. Series of spring followers occupy the square spaces between the knives.

*Claim.*—The combination and arrangement of the two series of adjustable knives with each other, the flange G, the platen and its series of followers, provided with springs, as specified, the whole being to operate with the bed A and the frame B thereof, substantially in manner and for the purpose as hereinbefore explained.

**71,832.**—WALTER A. WOOD, Hoosick Falls, N. Y.—*Harvester.*—December 3, 1867.—The yielding connection permits the shoe to rise over an obstruction and allows a certain independence of vertical adjustment to the outer end of the cutter bar.

*Claim.*—First, connecting the finger bar and cutting apparatus of a mowing machine to the main frame thereof by a yielding or spring connection, bolted rigidly at one end to the front outer corner of the main frame, and hinged at the other end directly to the shoe piece which supports the finger bar and cutting apparatus.

Second, the use in a mowing machine of a shoe piece or runner, which supports the finger beam and cutting apparatus, when said shoe piece is held in place at its rear end by a stirrup or loop passing over an axle, and is held laterally by a yielding spring connection, hinged at its lower end to the shoe, and bolted at its upper end to the front outer corner of the main frame.

**71,833.**—CHATHAM B. WRIGHT, Belmont, Ohio.—*Portable Derrick.*—December 3, 1867.—The hoisting rope has an adjustable block which comes in contact with the trip lever when the package is at the proper elevation. The tripping of the lever allows the swinging around of the derrick.

*Claim.*—The pawl O and adjustable tripping block R, in combination with the revolving derrick D C H K and hoisting rope J, substantially as herein shown and described and for the purpose set forth.

**71,834.**—IRA BARBER, La Porte, Ind.—*Cultivator.*—December 3, 1867.—The double shovel plows are attached to the main frame by a pivot pin in front and a chain at the rear, and have handles projecting above the frame.

*Claim.*—The beams B B, the chain C, and the pivoted flat bar D, the double-curved shovel F and the slotted bar I I, as substantially arranged, connected, and set forth in the annexed and foregoing specification.

**71,835.**—THOMAS S. JUDSON, Matteawan, N. Y.—*Harness Trace.*—December 3, 1867.—The tube trace has an internal wire rib covered with cloth and india-rubber.

*Claim.*—In combination with a wire interior the application of cloth and india-rubber coatings for forming a trace, when arranged in the manner and for the purposes set forth.

**71,836.**—WALTER AIKEN, Franklin, N. H.—*Machine for Notching Knitting Needles.*—December 10, 1867.—The clamps, as they are brought around to the attendant, are successively supplied with needle blanks, which are intermittently fed forward and undergo the operations named in the claims.

*Claim.*—First, the improved machine, substantially as described, for effecting the several operations of notching, slotting, boring, and burring a knitting machine needle blank, in the order and manner as explained.

Second, the combination of one or more vibratory clamps Y, the cam E, and the two burrs or cutters *q r*, for forming the notches in the needle blank, such clamp or clamps, cam, and cutters being provided with mechanism for operating them, substantially as described.

Third, the combination of one or more vibratory clamps Y, the cam E, the two burrs or cutter wheels *q r*, and the slotting burr or cutter *s*, provided with



mechanism for operating them, substantially as explained.

Fourth, the combination of one or more rotary clamps Y, the eam E, the burrs or cutter wheels *q r s*, and the drill *u*, provided with mechanism for operating them, substantially as set forth.

Fifth, the combination of one or more vibrating clamps, the burring cutter *t*, the drill *u*, and the slotting cutter *s*, arranged and provided with mechanism for operating them, substantially as explained.

**71,837.**—ALFRED ARNOLD, Tenaflly, N. J.—*Tea and Coffee Pot*.—December 10, 1867.—The bottom has a rounded and flat portion, being nearly balanced on the line between them. A transverse diaphragm, with a narrow passage at its lower edge, divides the pot into two chambers.

*Claim.*—First, in a tea or coffee boiler the base D, so constructed and adapted, relatively to the other parts, that an oscillating motion will be imparted to the vessel by process of ebullition, substantially as shown and described.

Second, in combination with the base or heating surface D the chambers *b b'* and diaphragm E, or their equivalents, substantially as arranged and described and for the purposes shown.

**71,838.**—L. J. ARWOOD, Waterbury, Conn., assignor to himself and HOLMES, BOOTH & HAYDENS, same place.—*Tool for Sizing Lamp Chimneys*.—December 10, 1867.—The jaws are adjusted by a set screw and fitted to be closed by hand around the base of the chimney, while the same is heated and is revolved by the operator in the usual manner.

*Claim.*—The adjustable sizing and shaping jaws employed, substantially as specified, in the manufacture of glass lamp chimneys and similar articles.

**71,839.**—ARTHUR BARBARIN, New Orleans, La.—*Preventing the Untwisting of the Ends of Wire Rope Bands*.—December 10, 1867.—Explained by the claim.

*Claim.*—A wire-rope band, in which the ends of the several wires composing the same are soldered together, substantially as herein described and for the purposes set forth.

**71,840.**—ALONZO B. BATY, Binghamton, N. Y.—*Spring Bed Bottom*.—December 10, 1867.—Brackets on the lower side of the slats are connected by links to springs secured to transverse pieces attached to the rails.

*Claim.*—The construction and application of the bracket B, in combination with the bail or pendant C, the springs D D, transverse pieces F F, and slats A A, all being constructed substantially as herein described and represented for the purpose set forth.

**71,841.**—HENRY L. BEACH, Montrose, Pa., assignor to BEACH WHEEL HORSE RAKE MANUFACTURING COMPANY, N. Y.—*Horse Rake*.—December 10, 1867.—The rake heads are pivoted in frames hinged to the axle. Each head has two parallel bars with a tooth pivoted at each end and adjustable upon brace bars, to which they are connected nearer to the point. The head bars are engaged by oscillating buttons to prevent rotation, and these buttons are all operated simultaneously by a lever.

*Claim.*—First, the teeth heads N, constructed and operating substantially as described.

Second, in combination with the teeth heads N, the teeth Q, substantially as described.

Third, the arms K and teeth heads N, combined and operating substantially as set forth.

Fourth, the cleaners M, teeth heads N, and teeth Q, when combined for the purposes indicated.

Fifth, the blocks *f*, pins *e*, sliding bar E, and lever G, when combined for the purposes set forth.

Sixth, the hooks *i i* and pins *j*, secured in the axle for the purpose shown.

Seventh, the washers P, combined with the teeth and teeth heads, substantially as and for the purpose described.

**71,842.**—JOHN W. BEARD, St. Johns, New Brunswick.—*Apparatus for Lighting Street Gas Lamps*.—December 10, 1867.—The lamp frame has a small trap door at the bottom through which the hook is introduced to turn the cock by its bell-grank lever. The torch lamp is protected by a cylinder whose perfora-

tions are large enough to allow passage of inflated gas.

*Claim.*—The combination of the hook F and the perforated cap E with the lamp D', to be affixed on a pole or staff, as set forth.

Also, the combination of the curved or hooked arms *c c* with the key *k* of the cock of the burner, and their arrangement with respect to the opening in the bottom of the lantern, as explained.

Also, the combination of the socket tube *e* with the lamp D', its hook F and perforated cap E.

Also, the combination of the receiving tube *f* and bayonet connection *g* with the socket tube *e*, the lamp D', its hook and perforated cap, as described.

**71,843.**—JOSEPH BENNOR, Philadelphia, Pa.—*Calipers and T-square*.—December 10, 1867.—The rule rises vertically from a stand, and has sliding scribes, an oscillatable pointer to operate as a surface gauge, and a pivoted triangular frame for use as a clinometer. The rule is removed from the stand, and the scribes removed from it when used as a T-square.

*Claim.*—The rule *a*, stand *c*, slide *m*, legs *p* and *q*, marker *u*, cutter *w*, with their several described appendages, all combined in the manner and for the purpose substantially as shown and described.

**71,844.**—FERDINAND BORCHARD, Detroit, Mich.—*Refrigerator*.—December 10, 1867.—The beer casks are supported on movable racks which slide to allow the exchange of one cask for another.

*Claim.*—First, a refrigerator which is provided with movable racks H, within cooling chambers which are arranged beneath an ice-chamber B, constructed with inclined walls *a a a*, a drip pan D, and an ice-supporting rack *c*, substantially as and for the purposes described.

Second, providing the movable racks with sliding brackets I which are so applied as to serve as supports for the outer ends of the racks when drawn partially out of their respective apartments, substantially as described.

**71,845.**—GEORGE BRABROOK, Taunton, Mass., assignor to REED AND BARTON, same place.—*Construction of Metal Salvors*.—December 10, 1867.—The cap molding is recessed to receive the wire of inflexible metal and is soldered to the rim.

*Claim.*—The arrangement and combination of the metallic ring and cap moulding together, and with the waiter or salver, in manner substantially as and for the purpose specified.

Also, as a new or improved manufacture, a waiter or salver of Britannia metal, having a metallic strengthening ring and cap moulding combined and arranged with its body in manner as specified.

**71,846.**—M. L. BRETT, Warren, Ohio.—*Manufacture of Shoes, &c.*—December 10, 1867.—Wool hat bodies are taken from the carding machine or hand bow, and hardened sufficiently for handling. They are cut in shape, and the edges brought flush together and whipped. The article is then felted and hardened. The shoe is dampened inside and placed on a hot metallic last while undergoing the operation.

*Claim.*—The construction of a seamless shoe, &c., by felting, in the manner set forth, as a new article of manufacture.

**71,847.**—T. C. BROMLEY, Fort Howard, Wis.—*Scoop*.—December 10, 1867.—The conical back of the scoop is strengthened by a circular raised piece soldered on the center of the inside of the back.

*Claim.*—The cone-shaped back and the circular raised brace.

**71,848.**—CHARLES H. BUCK, St. Louis, Mo.—*Water Reservoir for Stoves*.—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, the boiler D, constructed with a depression in its rear side, in combination with a stove made with the extended top A, and with a stove-pipe C, which is entirely independent of the boiler, but still is partly enclosed by the boiler, in the manner and for the purpose described.

Second, the boiler D, with its depression in its rear side made wholly independent of the pipe C, but capable of enclosing a portion of said pipe, and of being



removed without disturbing the pipe, as herein described and shown.

**71,849.**—THOMAS F. BURGESS, Lowell, Mass.—*Journal Box*.—December 10, 1867.—The box has an annular recess near each end with a downward passage therefrom to convey the superabundant oil to drip projections at the bottom of the box. The portion of the box bearing in the hanger is curved to allow a slight oscillation and accommodation to the shaft.

*Claim.*—The drips *e e* and conducting holes *d d*, in combination with the recesses *b b*, when arranged to operate substantially as described and for the purposes fully set forth.

**71,850.**—E. H. CARPENTER, Dexter, Mich.—*Hay Elevator*.—December 10, 1867.—A set of pulleys attached to a frame is suspended from a cable passing over the mow from the load or stack. The elevating mechanism is so arranged that it is held in place while the hay is being elevated, and then disengaged automatically and carried to the place of deposit.

*Claim.*—First, in combination with the cable A, frame F, wheels G, sheave E, and rope C, the disengaging device, consisting of a collar M, stop L, and vertical catch K, enclosing the cable A and rope C, and operated substantially as described.

Second, the combination of the frame F, rope C, collar M, stop L, catch K, and valves H, cams I, and lever I', said parts being constructed and the whole arranged substantially as set forth.

**71,851.**—CHARLES E. CASE, Xenia, Ohio.—*Steam Generator*.—December 10, 1867; antedated December 6, 1867.—A metallic cup extends upward from the lower and inner surface of the boiler to receive the water or steam thrown in by the feed pump, and prevent sudden cooling of any part of the boiler.

*Claim.*—The metal cup G, constructed and arranged substantially upon the principle and in the manner herein set forth.

**71,852.**—GEO. W. CHANDLER, Fitchburg, Mass., assignor to himself and LYSANDER F. THOMPSON, same place.—*Loom for Weaving Palm Leaf, &c.*—December 10, 1867.—The devices cannot be briefly described other than substantially in the words of the claims.

*Claim.*—First, the hinged holder G, substantially as and for the purposes set forth.

Second, the combination of the hinged fingers *c c* with the ribs *b b b*, substantially as and for the purposes set forth.

Third, the combination of the adjustable weight G' with the bottom of the holder, for the purposes set forth.

Fourth, the combination with the hinged fingers *c c* of the hinged holding-piece G'', substantially as and for the purposes set forth.

Fifth, the fingered stop or guard-piece *h'* with the holder G, substantially as and for the purposes set forth.

Sixth, the combination with the stand or plate *h* of the grooved hinged flap *i*, for supporting the guard or stop-piece *h'*.

Seventh, the combination with the ribbed holder G of the guide-piece *s*, as and for the purposes set forth.

Eighth, the combination of the feed-arm *m* with the slide-piece *n* and lever 26, substantially as and for the purposes set forth.

Ninth, the combination with lever 26 of the adjustable ears 27 27, for the purposes stated.

Tenth, the combination with the slide-piece *n* and table L of the connecting-piece 21, substantially as and for the purposes set forth.

Eleventh, the combination with the slotted slide-piece M'' and connecting-piece 21 of the double-shouldered bolts 18 18, substantially as and for the purposes set forth.

Twelfth, the combination with the curved lever M and the slide-piece M'' of the bent levers M' M', substantially as and for the purposes set forth.

Thirteenth, the combination with the arm 70 and notched bar *w* of the spring-pawl *t*, substantially as and for the purposes set forth.

Fourteenth, mechanism for separating the pieces of material to be fed, constructed and combined for opera-

tion substantially as described, and as shown in Fig. 7 of the accompanying drawings.

Fifteenth, the combination with a loom for weaving palm-leaf and other cloth of a push finger 41, substantially as and for the purposes set forth.

Sixteenth, the combination with the stem of the push-finger 41 of the catch-piece 42, lever 44, and operating springs 43 and 46, substantially as and for the purposes set forth.

Seventeenth, the combination with the slide *n* of the projection or dog 47, for releasing lever 46 from the catch-piece 42, as set forth.

Eighteenth, the combination with the hinged table L of the mechanism for separating and feeding the material, substantially as set forth.

Nineteenth, the combination with the stationary bed L'' and stand 72 of the hinged table L and catch o, substantially as set forth.

Twentieth, the combination and relative arrangement with the table L, bed L'', and holder G of the evener knives 12 and 14, as shown and set forth.

Twenty-first, the combination with the bridge-piece 50 of the hinged dog 52 and bell-spring 53, substantially as and for the purposes set forth.

Twenty-second, the combination and relative arrangement of mechanism, substantially such as is shown and described, for communicating the proper motions to the feed-arm S from lever K.

Twenty-third, the combination with a loom for weaving palm-leaf of mechanism, substantially such as shown and described, for stopping the loom, as set forth.

**71,153.**—GEORGE W. CLARK, Manchester, Ind.—*Pitman Coupling*.—December 10, 1867.—The bolt is secured to the forks of the pitman, and is held snugly in its semi-cylindrical socket by an adjustable hook bolt.

*Claim.*—The arrangement of forked pitman A G G', bolt H, screw shanked hook D, and nuts F F', or their equivalents, substantially as and for the purpose set forth.

**71,854.**—ERNEST COMEAUX, Bayou Youla, La.—*Machine for Making Levees*.—December 10, 1867.—The soil, &c., is raised by an elevator and conveyed by an endless apron to the spot where it is to be dumped.

*Claim.*—First, the endless apron, in combination with the hinged adjustable frame K, operating as described, for elevating the earth used in making levees, in the manner and for the purpose set forth.

Second, the combination of the endless apron F, chains H, slats J, and adjustable supporting frame K, and standards L, as herein described for the purpose set forth.

Third, the above, in combination with the spur wheels C and B and the endless chain D, as herein described for the purpose set forth.

**71,855.**—M. DE K. CUTTS, Richmond, Va.—*Roof*.—December 10, 1867.—The sides of the roof are hinged at the eaves and open at the ridge. They are raised by chains, which pass over sheaves in the frame to windlasses at the sides of the building.

*Claim.*—First, a tobacco drying house, which is provided with a sectional hinged roof, in combination with frames A, which support the tobacco leaves while being dried and cured, substantially as described.

Second, the supporting posts G in combination with hinged sections B B', elevating devices, and supporting frames, constructed and arranged in such manner that the leaves of tobacco upon said frames can be exposed to the action of the sun and air at pleasure, substantially as described.

**71,856.**—SHADRACH DAVIS, Dartmouth, Mass.—*Car Brake*.—December 10, 1867.—The shoe connection is so inclined that the friction of the wheels against the brakes applies them with greater force. The brakes are applied by a bar attached to their connecting bar and operated by a screw-rod turned by a hand wheel.

*Claim.*—A car brake, consisting of the broad connecting bar C<sup>1</sup>, which rests on pivots F<sup>1</sup>, working in slots, and has the brake shoes movably fixed to it, the whole combined as described, operated by the bar I<sup>2</sup>



and screw rod  $H^2$ , and by contact with the wheels, as and for the purposes set forth.

**71,857.**—MICHAEL DECAMP, South Bend, Ind.—*Feeder for Grain Mills.*—December 10, 1867.—The discharge end of the hopper has a horizontal rotating disk, having a convex upper surface. The disk is supported on a bridge over the eye of the millstone, and in view of the miller. The supply is regulated by a sliding collar at the throat of the hopper. The collar is fixed to any adjustment by a ribbed eccentric and lever.

*Claim.*—First, the combination of the device D, bridge ring bearing  $a$   $b$ , feeder  $c$ , and collar  $e$ , substantially as described.

Second, the toothed eccentric J in combination with lever G and collar  $e$ , substantially as described.

**71,858.**—PAUL DECHAUSE, New York, N. Y.—*Painters' Easel.*—December 10, 1867; antedated November 23, 1867.—The easel stands on three extensible legs, and has an extensible rest for the picture.

*Claim.*—First, the extensible legs, consisting of the hinged legs  $a$  and their extension sliding parts  $b$ , made and arranged substantially as described.

Second, the combination of the legs with the toggle brace  $c$   $c$ , substantially as described.

Third, the extensible rest, composed of the fixed part  $e$  and the sliding part  $d$ , in combination with the fixed and movable clamps  $f$   $g$ , substantially as described.

**71,859.**—HIRAM P. DILLINGHAM, Norwalk, Ohio.—*Guide for Saws in Saw Mills.*—December 10, 1867.—The adjustable wooden guides are attached to a frame, which is allowed a slight oscillation on a pivot bolt at the fore end, so that side pressure on the guides turns the saw and causes it to cut back to the proper line.

*Claim.*—The plates A and A', guides B B' and C C', the whole constructed substantially as described and operating as and for the purposes set forth.

**71,860.**—CHARLES A. DRESSER, New York, N. Y., (GEORGE A. DRESSER, Trustee.)—*Producing Calcium Magnesium Light.*—December 10, 1867.—Dolomite is reduced to fine powder after calcination. The powder is mixed with a solution of chloride of calcium 1 part, and water 3 parts, and formed into cylinders; after pressure it is decarbonized by heat. After this treatment it is exposed to the flame of hydrogen gas without decrepitation.

*Claim.*—The preparation of dolomite, native or artificial, substantially as and for the purpose described.

**71,861.**—SAMUEL R. DUMMER, New York, N. Y.—*Calendar Attachment to Inkstand.*—December 10, 1867.—The revolving rings pass behind the slotted band, and the name and numbers exposed at the openings indicate the date.

*Claim.*—First, an inkstand, &c., constructed with a series of shoulders or rests B, whether one or more, and one above another, in combination with the rings C and plate or frame D, or their respective equivalents, substantially as and for the purpose described.

Second, in combination with the above the two tubes H M and plunger O, as herein set forth for the purpose specified.

**71,862.**—G. B. DURKEE and W. H. MURRAY, Chicago, Ill., assignors to themselves and ISAAC T. SAFFORD, same place.—*Planing Machine for Wood.*—December 10, 1867.—Two cutter heads are combined so that one may follow the other. The journal frames of the cutters are arranged so as to admit of various inclination to allow the formation of undercut molding. The nuts of the knife-clamping bolts slide in grooves of the head, the bolt head projecting from the cutter iron.

*Claim.*—First, the employment of two separately adjustable cutter heads in a single machine, so that the axis of one cutter may be at one angle and the other at a different angle, and both cutters operating at the same time upon the same board, substantially as specified.

Second, the cross-heads C, cutter heads E, screws

D and G, in combination with the standards B, constructed and operating substantially as specified.

**71,863.**—J. M. FAIRCHILD, New Haven, Conn., assignor to himself, I. K. BUNDY, and J. M. TOWNSEND, same place.—*Self-adjusting Relay Magnet.*—December 10, 1867.—The action of the magnet tends to draw the head of the spindle nearer to the magnet and further from the armature, when the strength of the current on the line is increased, or allow it to approach the armature when the current is diminished.

*Claim.*—The arrangement of the head C combined with the magnet so as to be self-adjusting in relation to the armature, substantially as herein set forth.

**71,864.**—LEONARD FELKER, Tewksbury, Mass.—*Corn Cake Cutter.*—December 10, 1867.—The dough being spread on the table, the lever is disconnected from the catch, which allows the adjustable stands to descend, carrying down the cylinders and connecting the gears with the racks; the radial knives and finishers act upon the dough, carrying forward the table with its contents directly under the cylinder and in contact with the circular cutters.

*Claim.*—First, the rotating cylinder  $i$ , with its cutters  $i'$   $i'$ , in combination with the rotating cylinder  $f$ , with its stationary knives  $f'$   $f'$  and adjustable finishers  $g$   $g$ , when arranged to operate for the purposes substantially as described and set forth.

Second, the pressure rotating cylinder  $f$ , with stationary knives  $f'$   $f'$ , and adjustable finishers  $g$   $g$ , substantially as described and set forth.

Third, the clearer  $m$ , in combination with the rotating cutters  $i'$   $i'$ , as described.

Fourth, the adjustable stands  $d$   $d$  and lever  $p$ , in combination with the table  $b'$  and weight  $o$ , when arranged to operate substantially as described.

**71,865.**—ELISHA FITZGERALD, New York, N. Y.—*Measuring Faucet.*—December 10, 1867.—The water flows through the supply pipe to the four-way cock, and to one side of the vessel, which has a flexible diaphragm. The entrance of the water into this side expels the water from the other side, the water passing through the other passage of the four-way cock to the discharge spout. For a further supply of water the cock is turned 90°, and the flow of water is reversed. A sliding division in a cylinder may take the place of the diaphragm.

*Claim.*—The combination of a four-way cock with a receptacle having a movable partition operated by the water, substantially as described, for the purpose of limiting and determining the amount of water to be discharged, as specified.

Also, in combination with the above, the dial and pointer, to indicate the amount of water discharged, as described.

**71,866.**—CHARLES C. FORNCROOK, Hermitage, N. Y.—*Tuyere.*—December 10, 1867.—The valve is seated in a chamber that connects with the nozzle by a short pipe. The valve opens during inspiration and closes during the expulsion of the air.

*Claim.*—The combination of the valve  $d$ , adjustable bridge  $g$ , chamber B, and tuyere A, arranged and operating substantially in the manner and for the purpose set forth.

**71,867.**—JOHN H. FRALEY, New Orleans, La.—*Cotton Tie.*—December 10, 1867.—The plates are duplicates and break joint as they lie one upon the other. The bands are folded over the side bars of the associated plates and the in-lying end is pressed against the band by the expansion of the bale when released from the press.

*Claim.*—The combination of the buckles A and B when they are constructed and united, as described, with the ends of hoop iron when bent into the form of hooks, as and for the purpose set forth.

**71,868.**—JOHN GLASS, GEORGE P. SCHNEIDER, and WM. B. REZNER, Cleveland, Ohio.—*Bridge.*—December 10, 1867.—The curvilinear semi-tubes are united by flanges at their edges embracing between their lips a diaphragm plate which divides the tubes into two chambers. The ends of the tubes fit over base flanges and rest on foot blocks.

*Claim.*—First, the tubular flanged sections A B,



as arranged, in combination with the diaphragm C, for the purpose and in the manner substantially as set forth.

Second, the tubular arch as constructed with sections A B C, in combination with the foot block I provided with a flange or boss K, when arranged in the manner as and for the purpose set forth.

**71,869.**—JOHN H. GOMER, New York, N. Y.—*Oil Cup*.—December 10, 1867.—The cup has a recessed bottom from the edge of which it has an upwardly increasing diameter to its top. The cap is flat and screws into the cup.

*Claim.*—The combination of the cap B with its screw flange *b* and case A provided with suitable tube C, in the manner and for the purpose herein specified.

**71,870.**—GEORGE D. GOODRICH, Chicago, Ill.—*Peat Machine*.—December 10, 1867.—The elongated pug mill has two comminutors and forwarders which force the worked peat into four horizontal chutes, each having a screw conveyor to force the compressed peat from contracted spouts at one side of the machine. As it issues, the peat is cut into blocks by an automatic knife.

*Claim.*—First, the adjustable bearing for the shaft B composed of two or more segments *r*, constructed and operating substantially as described.

Second, the separate troughs I located below the tempering mill when more than one expelling screw is employed, so as to give each screw a separate and independent action, substantially as specified.

Third, the cutter or knife F for cutting the material into suitable lengths in a peat machine having a continuous discharge from the expelling mill, substantially as specified.

Fourth, closing the mouth of the die by an adjustable intermittent stop or knife when so arranged that the movements can be varied with respect to the movements of the other operating parts of the machine, substantially as specified.

Fifth, the double slotted plate or wheel K provided with the sockets *h* and pins *i* for the purpose of adjusting the movements of the cutter stop or knife F, substantially as described.

Sixth, the combination of the separate troughs I, expelling screws H, and cutter stop F, with a tempering mill, substantially as specified.

**71,871.**—WM. M. GRAY, Brooklyn, N. Y.—*Ratchet Bed Key*.—December 10, 1867.—The spindle having the ratchet wheel and containing sockets for the drill shank and feed screw is made in one piece, and the enclosing end of the lever has a removable side to allow the connection of the parts.

*Claim.*—The bed key constructed and arranged as above described, as a new article of manufacture.

**71,872.**—CYRUS P. GROSVENOR, McGrawville, N. Y.—*Preventing Explosion of Lamps*.—December 10, 1867.—Explained by the claim and illustration.

*Claim.*—The application to lamps or heaters, using coal oils, alcohol, or other explosive substances, of such a burner as will supply the vacuum made in the reservoir by the combustion with nitrogen gas, the burner being constructed as herein described, or in any other form substantially the same, and which will produce the intended effect.

**71,873.**—JOSEPH HARRIS, Dorchester, Mass.—*Car Axle Box*.—December 10, 1867.—The axle box is fitted to play in its jaws and has a circular chamber enclosing a series of rollers against which the outer casing of the axle works. The rollers have journals on their ends and to the latter are fitted a series of guides. The guides have faces that are radial to the axle, and they are of such length as to keep the peripheries of the rolls from contact with each other.

*Claim.*—First, the roller guides *a* with detached radial joints, substantially as described.

Second, in combination with the system of rollers and box *g* the construction of the axle with its extension *e* and shoulder *d*, as and for the purpose set forth.

**71,874.**—JOB H. HASKELL, Lowell, Mass., assignor to himself and HORACE TAPLIN, same place.—*Washing Machine*.—December 10, 1867; antedated

November 23, 1867.—The roller frame is attached to spring slats above the bottom of the suds box. The open cylinder has two circumferential courses of ribs with openings between. It is oscillated or rotated by radial handles and held down by a spring. The cylinder may be swung upward and backward on its journal arms.

*Claim.*—The general construction and combination of all the parts, consisting of the cylinder G, series of yielding rollers *a*, roller stands *k*, spring bars *f*, levers or arms *m*, spring bar D, transverse bar E, rod O, and the box, the whole arranged to operate substantially as and for the purpose set forth.

**71,875.**—JOHN V. HAWKEY, Greensburg, Pa., assignor to himself and ISRAEL T. SHEFFLER, same place.—*Horse Rake*.—December 10, 1867.—The rake shaft is made in three sections connected by hinges so that the outer sections fold over the middle one, and yet, when unfolded, the ends of the sections abut and prevent the outer section from falling. When open, the shaft is rigidified by spring catches.

*Claim.*—First, a rake shaft or head arranged outside of the periphery of the wheels projecting laterally beyond them and so jointed that its sections can be folded vertically upon the carrying frame without detaching any of the parts of the rake, substantially as described.

Second, an axially turning rake shaft so jointed that its outer sections can be folded inwards without detaching any of its parts.

Third, the combination of the inner fixed section of the rake shaft with the outer vertically folding sections projecting beyond the wheels, substantially as and for the purpose described.

Fourth, the combination, substantially as described, with a jointed rake shaft of hinges allowing the sections to fold vertically and a locking device to hold them rigidly when unfolded.

Fifth, the arrangement, as described, of the stop pins *m* on the folding sections to secure them in position when folded up.

Sixth, the combination, in a horse rake, of an axially turning folding rake shaft with a rock shaft controlled by a handle on the driver's platform to raise and lower the teeth.

Seventh, the arrangement, in a horse rake, of an axially turning jointed rake shaft mounted on the rear end of the thills and supported on two wheels mounted on independent axles.

**71,876.**—JAMES B. HILL, Allegheny City, Pa.—*Apparatus for Draining Sugar*.—December 10, 1867.—The rotating cylinder keeps the sugar in motion while it drains through the screen and runs into the discharge pipe. The scraper keeps the screen clear.

*Claim.*—The combination and arrangement of the hopper C, provided with valve *d*, case B, screen R, distributing drum P, distributor *f*, provided with valve *i*, scraper S, chute *h*, and pipe *t*, the whole being constructed, arranged, and operating substantially in the manner herein described and for the purpose set forth.

**71,877.**—JAMES B. HILL, Allegheny City, Pa.—*Centrifugal Machine for Draining Sugar*.—December 10, 1867.—The granulated molasses is placed in the hopper and a rapid motion of the shaft imparts motion to the fan and screen. The sugar is driven by the fan against the screen, which is kept from choking by the scraper. The valve being removed, the molasses runs off by the discharge pipe.

*Claim.*—The use of a fan when used in combination with the shield *m*, distributor *f*, screen R, case B, hopper C, and scraper S, constructed, arranged, and operating substantially in the manner herein described and for the purpose set forth.

**71,878.**—SAMUEL L. HILL, Brooklyn, N. Y.—*Card Holder*.—December 10, 1867.—A series of strips are attached to a back piece so as to overlap upward and to grip the lower edges of the cards.

*Claim.*—In combination with a back or support, the use or employment of any number of strips when the same shall be constructed and combined substantially as shown for the purpose specified.

**71,879.**—MARTIN HILTZ, Gloucester, Mass.—*Fishing-line Swivel*.—December 10, 1867.—The grooved



part, which is tied to the spreader, is hinged to the forked end of the central part, which is connected by an axial bolt to the turning end.

*Claim.*—The improved swivel, as made with the screw bolt D and the nut chamber *e*, arranged and combined as explained, with the parts A B C, constructed and applied together as specified.

**71,880.**—T. W. HOUGHIN, Morrisania, N. Y.—*Implement for Lighting Gas.*—December 10, 1867.—By occasionally inverting the torch the wick is saturated with alcohol from the reservoir so that it will burn while lighting lamps.

*Claim.*—First, placing a receiver A at the lower end of a tube B, for the purposes fully described.

Second, the combination of a receiver A, tube B, and wick chamber C, when the same shall be constructed substantially as described for the purposes set forth.

**71,881.**—J. W. HOWE and J. K. BARTON, Worcester, Mass.—*Corn Popper.*—December 10, 1867.—Wires attached to the fore and back bars, and forming the hinges to the cover, are twisted up into a shank and are secured in the socket of a wooden handle.

*Claim.*—First, the combination of the twisted wires *a a' a'*, with the handle B, and receptacle A, substantially as and for the purposes described.

Second, the combination of the wires *a' a'*, with handle B, receptacle A, and cover of the same, as and for the purposes described.

Third, the combination of the wires *a a' a'* with each other, receptacle A, and cover of the same, as shown and described.

**71,882.**—BENJAMIN GEORGE HOWES, Worcester, Mass.—*Copy Book.*—December 10, 1867.—A compendium of the most common errors is illustrated and accompanied by copies upon separate slips of paper which are arranged so as to be separate from the body of the book or the paper to be written on. The book is so constructed that while the text and copies are bound therein, the paper for use is removable as desired.

*Claim.*—The copy book, constructed substantially as described.

**71,883.**—G. A. HYVER, New Orleans, La.—*Petroleum Gas Burner.*—December 10, 1867.—The retort being filled with oil and the stop cock opened, the oil flows through the broken charcoal into the annular concentric chamber until nearly half full. The heat is now applied to the chamber by a lamp, until the gas thus created from the oil flows through the pipe to and through the jet, and is ignited at the burner.

*Claim.*—First, the combination of the pipe D when filled with finely broken charcoal, with the concentric or annular chamber F, the latter being provided with pipes *b* extending upwardly into the cup furnace or heat retort H, as and for the purpose substantially as set forth.

Second, the combination of the pipe D when filled with finely broken charcoal, the concentric or annular chamber F, pipes *b* and pipe *d*, with the gas pipe *c*, when the latter is provided with the valve J for regulating the flow of gas, as and for the purpose described.

Third, the gas pipe *c*, when constructed and arranged with relation to the chamber F and one of the pipes *b*, as described, in combination with the valve J, for the purpose set forth.

Fourth, the combination of the concentric or annular chamber F and pipes *b* with the cup furnace or heat retort H, when the latter is constructed as described and shown upon the drawings, and occupies the relation to the former herein set forth, for the purpose set forth.

Fifth, the pipe *d*, in combination with one of the pipes *b*, for the purpose of affording a light for illuminating purposes, as herein described.

**71,884.**—JOHN KEESEY, Chester, Pa.—*Shaft Coupling.*—December 10, 1867.—The shaft coupling is secured by a combination of wedges, bolts, and nuts in the boxing.

*Claim.*—The combination of the box, hub, or shell B, reverse wedge-shaped blocks C C', and bolts D D',

with their nuts E E', or the equivalents of these devices, arranged for operation together, substantially as and for the purposes herein set forth.

**71,885.**—CHARLES L. KINGSLEY, Meriden, Conn., assignor to CHARLES PARKER, same place.—*Clamp Screw.*—December 10, 1867.—The trunnions of the lever engage in the seats of the nut, giving a secure hold for the wrench.

*Claim.*—The nut E, formed with the seats F, and the lever G formed with the trunnions I, so as to be combined and operate in the manner and for the purpose described.

**71,886.**—JOSEPH KLAHR, Bernville, Pa., assignor to himself, W. R. WEAND, C. H. ZINK, and JAMES J. WAGENHORST, Philadelphia, Pa.—*Machine for Bending Wood.*—December 10, 1867.—The strips are supported, when the bending begins, by the flexible plate that presses the strips against the "formers" to prevent their being abruptly bent and broken.

*Claim.*—First, the formers F F', with their arms *p p'*, levers *k k'*, and catches *q*, or their equivalents, in combination with the clamps G, the whole being constructed and operating substantially as and for the purpose described.

Second, the combination of the above, the weighted levers D D', and the links *l*.

Third, the adjustable plates B B', with their shoulders *e*, operating in combination with the formers and their projections *q*, substantially as and for the purpose described.

**71,887.**—G. A. KNOWLTON, Natick, Mass.—*Oil Cans.*—December 10, 1867.—The spout and vent hole have stoppers projected against their outlets by the spiral springs and pivoted bar. The sliding trigger opens both at once.

*Claim.*—First, the stoppers D and I, retracted from their respective orifices by a single trigger H H', and provided with two springs G J to insure the effective closure of both said orifices, substantially as described.

Second, in a valved oil can, constructed as above specified, the arrangement of the trigger H H' obliquely on the upper side of the handle A', as and for the purpose set forth.

**71,888.**—IRA LACKEY, Lebanon, Ohio.—*Fence.*—December 10, 1867.—The standards and braces are mortised into the sill and are clamped at top by loops and double hooks.

*Claim.*—The combination of the sills A, braces C, and hooks or loops *i j*, with the grooved posts *a c* of the panels, when the parts are constructed and arranged to form a detachable and portable fence, in the manner and for the purpose specified.

**71,889.**—NATHAN LAWRENCE, Taunton, Mass., assignor to REED & BARTON, same place.—*Butter Dish.*—December 10, 1867.—The lower portion of the dish consists of two concentric, hemispherical plates, and the cover is revolved so as to bring it down into the space between them. The journal of the cover extends through its bearings, and is secured to handles having annular spaces around the journal, containing spiral friction springs.

*Claim.*—The arrangement and combination of the friction spring with the cover and vase, the journal and the bearing to extend entirely around the said journal, as specified.

**71,890.**—EDWARD J. LEYBURN, Lexington, Va.—*Harvester Rake.*—December 10, 1867.—The rake arm revolves around, and is oscillated by a fixed cam so as to cause the rake head to act alternately as a rake and as a reel.

*Claim.*—First, connecting the rake arm E' to a loose collar *c* on reel shaft B, by means of a pivot *d'*, carrying an arm *f*, in combination with the jointed connecting rod *h*, substantially as described.

Second, the arresting-plate G<sup>2</sup>, in combination with the rake pivot *d'*, arm *f*, and collar *c*, and connecting-rod *h*, substantially as described.

Third, the cam-plate G G<sup>1</sup>, in combination with the rake pivot *d'*, loose collar *c*, and connecting-rod *h*, substantially as described.

Fourth, the anti-friction roller *i*, applied to the arm *f* of the rake pivot, in combination with the arresting-plate G<sup>2</sup>, substantially as described.



Fifth, connecting the arm *f*, which is in the rake pivot *d'*, to the reel-shaft or reel-arm thereof, by means of a rod *h* and universal joint *h'*, substantially as described.

Sixth, the application of a weight *g* to an arm *f* of the rake pivot, when said arm is upon a loose collar *c*, and arranged to operate substantially as described.

**71,891.**—REUBEN LIGHTHALL, Brooklyn, N. Y.—*Washing Machine*.—December 10, 1867.—The holder is clamped to the tub side, and has a shaft traversing slots in the arms of the rubber. The rubber has a pivoted head, two hexagonal rollers, and an operative bar.

*Claim.*—The detachable holder A, with the set screw B, in combination with the slotted lever D and the rollers F F', and the cam H, as and for the purpose set forth.

**71,892.**—R. O. LOWRY, Salem, N. Y.—*Process for Rendering Paper, Cloth, &c., Fire and Water-proof*.—December 10, 1867.—The fibrous material is saturated with a mixture of starch and water. A compound of milk, 1 pint; vinegar, 1 pint; and quicklime, 1 pound, is mixed, and left until the lime is slaked. This forms a pasty mass, which is applied to the material.

*Claim.*—The process, substantially as herein described, of treating fibrous and other materials for rendering them fire and water-proof.

**71,893.**—R. O. LOWREY, Salem, N. Y.—*Composition for Manufacture of Water-proof Paper, &c.*—December 10, 1867.—A composition is formed of animal gelatine, 4 ounces; soap, 2 ounces; glycerine, 2 ounces; water, 4 quarts. Paper pulp is mixed with the above, and, after drying, the mass is treated with a saturated solution of salt and alum in equal proportions at a temperature of 60° Fah. The matter is then washed to remove the surplus astringent. To increase the bulk in making rigid articles, clay or plaster may be added.

*Claim.*—First, the new compound or composition of matter, produced by the treatment of vegetable fibre, substantially as described.

Second, the process herein described of treating vegetable fibre for producing a new compound, substantially as set forth.

**71,894.**—R. Y. MCCONNELL and G. PRINGLE, Rochester, N. Y.—*Street Sweeper*.—December 10, 1867.—The driving spur wheels are attached to the ground wheels, and engage pinions turning loosely on the counter shaft, but clutched thereto by spring ratchet clutches, which allow free backward rotation. This shaft is connected by chain gearing with the rotary brushes that throw the mud into the dumping receiver.

*Claim.*—First, the pinions *a* of the counter-shaft *s*, combined with carrier wheels *W* of street sweepers, by suitable sliding clutches *c*, all arranged substantially as shown and described, and for the purpose of equalizing the strength and efficiency of those portions of the machine.

Second, the broom-shaft *b* and the counter-shaft *s*, arranged substantially as shown, being held by means of the adjustable rigid traps *y*, for the purposes set forth.

Third, the spring clutches *c*, governed by means of the hand-lever *D*, connecting-rod *f*, lever *k*, and the counter-inclined planes *m*, all arranged and operating substantially in the manner and for the purposes set forth.

**71,895.**—FREDERICK MERRIWETHER, Tamola, Miss.—*Uterine Supporter*.—December 10, 1867.—The spring slides in a slot in the belt and is secured by a set screw. The lower portion of the spring is of copper to allow of bending for adjustment.

*Claim.*—The combination, as described, of the spring E, composed of copper or other soft metal, with the pessary, for the purposes set forth.

Also, the combination, substantially as described, of the pelvic spring, the vertically adjustable bar and set-screw, the soft metal spring E, the pessary pillar F, and the pessary, for the purposes specified.

**71,896.**—ABRAHAM S. MILLER, Zanesfield, Ohio, assignor to himself and J. P. JAMES and CHARLES

TOLSON, same place.—*Railroad Signal*.—December 10, 1867.—The train striking the trigger, the latter through its connections communicates motion to the signal so as to first turn it to its warning position in approaching the curve and afterward replace it when the point of danger is passed.

*Claim.*—First, the combination of the trigger E and rock-shaft F *f* with a railroad signal and suitable intermediate connections, so arranged that the contact of the train with said trigger shall throw the signal into its conspicuous position, substantially as described.

Second, the arrangement of the trigger E, rock-shaft F *f*, arm H, link I, lever G, wire J, eccentric lever L, catch M, and shaft B, signal A and weight B', or its equivalent, (P P<sup>1</sup> P<sup>2</sup> Q,) substantially as and for the purpose specified.

Third, the arrangement of the trigger E', rock-shaft F' *f'*, arm H', and rod or other suitable connection N, all arranged and operating substantially as and for the purpose set forth.

Fourth, the combination with the disk or signal A of the reflecting plate *a*, substantially as and for the object stated.

**71,897.**—HENRY MILLER, Ronald Township, Mich.—*Spinning Wheel*.—December 10, 1867.—The oscillating spindle-arm is connected to the longer end of a bell crank to whose shorter end the treadle is attached. The arm oscillates in a vertical plane.

*Claim.*—The arrangement of the adjustable and hinged rods and levers, constructed as herein described, for connecting the rocking treadle with the hinged spindle arm, so that the operator, by the foot, may move the spindle-arm out or in at pleasure, as set forth and represented.

**71,898.**—CHARLES MOLE, London, England.—*Boot and Shoe*.—December 10, 1867.—An angular projection on a plate attached to one part of the heel enters a counterpart cavity in the plate upon the other part. The parts are secured together by a vertical screw-bolt and nut.

*Claim.*—The manufacture of a movable boot-heel in two parts, to be adjusted in different positions by means of a single central projection taking into a single slot-hole or countersunk part, and secured in position by means of a central screw or pin, whether such projection and hole or countersunk part be square or many-sided, and no matter what the shape of these sides, so that the shape of the projection and that of the hole which is to receive it be identical, the whole substantially as hereinbefore described and illustrated on the annexed sheet or drawing.

**71,899.**—ALFRED MURDEN and HENRY L. COOPER, New Haven, Conn., assignors to themselves and FRANCIS WARNER, same place.—*Water Cooler and Refrigerator*.—December 10, 1867.—The water tank extends around and forms the packing for the ice chamber. The cover fitting over both ice chamber and tank forms a partition between them and the refrigerator.

*Claim.*—The arrangement of the cylinder A and outer cylinder C, so as to form a water space D, and combined with covers E and G so as to form a chamber F, above the water space D and ice cylinder A, so that the cover E forms the bottom of and the cover G the top of the said chamber, in the manner and for the purpose herein set forth.

**71,900.**—F. G. NIEDRINGHAUS and WM. F. NIEDRINGHAUS, St. Louis, Mo.—*Stamped Sheet Metal Kettle*.—December 10, 1867.—The kettle is made from two sheets of metal, the spout partially from each.

*Claim.*—The spout of a kettle when formed by pressure from the bottom and top plate of the kettle, when constructed substantially as shown and specified.

**71,901.**—O. B. NORTH, New Haven, Conn., assignor to O. B. NORTH AND COMPANY, same place.—*Breast Strap Slide*.—December 10, 1867.—The plate is for the protection of the breast strap from the action of the neck yoke ring, and has a projection on one side and a latch on the other to prevent the escape of the said ring. The latch is kept in position by pressure of the strap beneath it.

*Claim.*—First, the arrangement of the hinged



tongue E upon the plate A, so as to cover the ring, substantially in the manner herein set forth.

Second, constructing the hook or projection D upon the inside of the plate, by forming an opening *d* through the plate, substantially as and for the purpose herein set forth.

**71,902.**—ABEL NUTTING, Quincy, Mass.—*Snow Plow*.—December 10, 1867.—The plow point has spiral wings and is rotated by geared connection with the turning axle of the track wheels. It is intended for use before a locomotive.

*Claim.*—The rotary plow, arranged to operate substantially as set forth.

Also, in combination with such a plow, inclines or shares, fixed, with respect to the frame by which they are supported, substantially as described.

**71,903.**—ISAAC R. OAKFORD, Philadelphia, Pa.—*Steam Generator*.—December 10, 1867.—The furnace is between vertical side walls, and has arched, parallel top and bottom. The boiler has a series of oblong vessels perpendicular to the top of the furnace, and whose throats passing through the top and bottom walls are connected by pipes outside.

*Claim.*—A steam generator, composed of a series of cylindrical boilers, of round ends, provided with openings for steam and water, and arranged in a vertical and inclined position, in the manner and for the purpose above set forth and described.

**71,904.**—P. B. O'BRIEN and WILLIAM E. SPARKS, New Haven, Conn., assignors to P. B. O'BRIEN.—*Caster for Furniture*.—December 10, 1867.—The shank has a transverse helical spring, whose ends engage a shoulder in the socket and prevent accidental dropping out.

*Claim.*—The arrangement of the spring *a* in the spindle B, and combined with the socket C, so as to operate in the manner substantially as described.

**71,905.**—STAATS N. PARK, Bloomsbury, N. J.—*Railway Frog*.—December 10, 1867.—The frog plate, track sections, guard rails, and frog point are so constructed in reference to each other that the plate and the parts resting thereon can be made separate from each other and the parts detached when necessary.

*Claim.*—First, so constructing the frogs of railways that the frog plate and the rail or track sections, guard rails, and frog point are separate from each other, and so that the rail sections and guard rails and frog point can be inserted in or attached to and detached from the frog plate, for the uses and purposes set forth.

Second, so constructing the frogs of railways or frog plate that the track rails of any railway can be extended upon and combined with such frog plate to form the track or rail section of the frog, substantially as and for the purposes set forth.

**71,906.**—HENRY W. PELL, Rome, N. Y.—*Harvester*.—December 10, 1867.—The doubletree is pivoted to a frame, sliding by friction rollers on a way bar bolted to the under side of the tongue. The pivot bolt carries a clevis, to which the draw chain is connected.

*Claim.*—First, the carriage C, supported at both ends on wheels or rollers *c c* running on a guideway S, substantially as and for the purposes specified.

Second, the rib or groove joint between the friction rollers and guideway, to sustain the lateral pressure, as set forth.

Third, the clevis pin or whiffletree bolt B attached to the center of the carriage C.

Fourth, the independent attachment of the draft clevis to the whiffletree bolt, to permit the independent oscillation of the whiffletree without affecting the clevis.

**71,907.**—M. PERL, New Orleans, La.—*Medical Compound*.—December 10, 1867.—For treatment of dyspepsia, &c. Composed of Peruvian bark, willow bark, sulphuric acid, with stomachics, wine, sugar, &c.

*Claim.*—The medical compound herein described, when made by the process and composed of ingredients herein specified, in the proportions stated, for the purpose set forth.

**71,908.**—ELIJAH S. PIERCE, Hartford, Conn.—*Machinery for Shaving and Slotting Screws*.—December 10, 1867.—The screw is clamped in the jaws of the rotating spindle, and the head brought in contact with an angular cutter by a rotating cam. A further elevation of the spindle frame brings the pulley in contact with the spring clamp, by which the rotation of the cylinder is stopped while the head is under the action of the rotary nicking saws.

*Claim.*—First, the combination of the cam M, the sliding frame Y, the spindle A, the pulley P, the clamp C, the spring S, and the rest R, or their equivalents, with a shaving tool and one or more nicking saws, substantially as herein specified.

Second, the combination of the sliding frame Y, the spindle A, and the clamping device C with a shaving tool and one or more saws, substantially as described, for the purpose of shaving, nicking, and burring screw blanks or other similar articles while held in the same jaws.

**71,909.**—ELIJAH S. PIERCE, Hartford, Conn.—*Double Screw*.—December 10, 1867.—The screw has a head at midlength, with side nicks for the action of the driver. It acts as a dowell serew, the head preventing too great penetration into either part.

*Claim.*—The double screw herein described and shown as a new article of manufacture.

**71,910.**—CHARLES F. PIKE, Providence, R. I.—*Apparatus for Preserving Meats, Fish, Poultry, &c.*—December 10, 1867.—Explained by the claims.

*Claim.*—First, constructing a tubular ice box with holes or openings in the tubes or pipes at or near the bottom to let the air out into the chamber F, and slots or openings into the ice receptacle, reservoir, or depository near the top, and so get the combined and double purpose of radiation, conduction, and internal circulation of the air in the chamber F, substantially as and for the purposes set forth and described in the drawing and specification hereunto annexed, without confining to any particular form, size, or shape of the pipes or tubes, whether they be vertical or horizontal, round, square, oval, oblong, or in any other form; neither to any particular form of ice receptacle, reservoir, or depository.

Second, the perforating or making slots, holes, or openings in the tubes or pipes near the bottom, for the purposes set forth and described, howsoever the same may be made, whether used in connection with the ice receptacle, reservoir, or depository as described, or without the openings in the ice receptacle, reservoir, or depository, for the purpose of the rotating of the air.

Third, the ice receptacle, reservoir, or depository, with its openings to let the air into and onto the ice in this ice receptacle, reservoir, or depository, for the purpose of taking off the moisture in the preserving room at or near its top, whether the tubes connected to the bottom of this ice receptacle, reservoir, or depository are perforated or not, or whether the ice receptacle, reservoir, or depository is removed altogether and the tops or collars of the tubes or pipes are perforated.

Fourth, the ice box, receptacle, reservoir, or depository A, as described, pipes or tubes B C D L, pan E H, room F, substantially as described and set forth, with their appendages.

**71,911.**—D. W. S. RAWSON, Peru, Ill.—*Multiplying Reflector for Photographie Cameras*.—December 10, 1867; antedated November 25, 1867.—The reflectors are arranged in a box, to preserve them from crosslights when in use and from dust when not in use. The mirrors are hung on universal joints, and have non-reflecting plates between them.

*Claim.*—First, the reflector box A, the doors and shade wings B B, the bars C C, the non-reflecting division D D, surrounding and between the several mirrors, the base board F, and the slide board G, and the double pivot H, when used for the purposes herein described.

Second, the use of the lever for the purpose of adjusting the reflectors.

Third, the moving of the reflectors with the slide G, to produce more than one set of impressions on the same plate, or an equivalent movement.



**71,912.**—WILLIAM F. RAY, Fort Wayne, Ind.—*Car Spring*.—December 10, 1867.—Explained by the claim and illustration.

*Claim.*—A series of reflexed springs, so constructed that the bows slide into each other, the whole being adjustable so as to regulate the amount of elasticity, as described.

**71,913.**—HENRY READ, Providence, R. I.—*Lamp Burner*.—December 10, 1867.—The lower portion of the cone is perforated and is supported on a frame, giving bearing to the chimney. The burner is intended to operate with or without a chimney.

*Claim.*—The skeleton bottom B, in combination with the perforated cylinder C and cone D, when constructed and arranged substantially as described and for the purpose specified.

**71,914.**—PETER R. SANDERSON, Caledonia, N. Y.—*Apparatus for Taming Wild Animals*.—December 10, 1867.—The four sheaves are attached to the sureingle. Having secured one end of the rope it is passed alternately through the attached sheaves and the corresponding suspended sheaves, to which are attached the straps and rings of nooses that secure the feet of the animal.

*Claim.*—The construction and use of a sureingle strap, as described, with the sheaves A A A A, and their attachments to said sureingle, and the slipping straps B B B B and rope C, when arranged substantially as described for the purpose specified.

Also, the combination of the above parts A A, &c., B B, &c., and C with any harness, arranged substantially as described for the purpose designed.

**71,915.**—Cancelled.

**71,916.**—NELSON SILVESTER, Weymouth, Ohio.—*Horse and Cattle Poke*.—December 10, 1867.—The tongue is pivoted to the neck bow, and its rear extension has a spring cushion that projects against the bow.

*Claim.*—First, the head B, cross bar E, in combination with the springs F and spikes *a*, for the purpose and in the manner substantially as set forth.

Second, the cross bar E as arranged in relation to the yoke C and in combination with the poke A, in the manner and for the purpose specified.

**71,917.**—FRANK J. SMILEY, Marshall, Mich.—*Corn Planter*.—December 10, 1867.—The seed cylinder is constructed in sections, which slide together as a telescope in altering the machine to plant rows of different widths. This cylinder is rotated by connection with the "perambulator" shaft, the said shaft being on a hinged frame and having radial legs with pointed feet to insure proper action in passing over rough ground.

*Claim.*—First, in combination with a wheeled machine for planting corn or other seed at regular intervals, a "perambulator," substantially as described, when hung concentrically to a revolving seed cylinder C, and operated in connection therewith, substantially in the manner and for the purpose herein specified.

Second, when operated in connection with a revolving seed cylinder the arrangement and combination of the dropping tubes *t* and their attachments with the tappet pins T and receiving basins K, for dropping and conveying the seed to the furrowers, substantially as set forth.

Third, the pendant gauge bars *h*, in combination with the gauge plates *g*, substantially as and for the purpose described.

**71,918.**—CHARLES A. SMITH, Philadelphia, Pa.—*Whip Rack*.—December 10, 1867.—The metallic plate has apertures for the insertion of whips, and tongues by which they are held.

*Claim.*—A whip rack composed of metal or other inelastic material, and furnished with a series of divisions or apartments, with a hinged tongue or flap in each, and suitable openings in each apartment for the insertion and retention of a whip, substantially as described.

**71,919.**—HENRY JULIUS SMITH, Boston, Mass., assignor to JOS. C. WIGHTMAN, Newtonville, N. Y.—*Hardening and Bleaching Articles Made of Soap-*

*stone, Talc, &c.*—December 10, 1867.—Articles formed from soapstone, talc, or silicates of magnesia or alumina, after shaping, are confined in a closed vessel with carbon and subjected to heat.

*Claim.*—First, the heating in a closed vessel and in contact with carbon the above-described substances, or articles formed therefrom, for the purpose of hardening and toughening the same, substantially as above described.

Second, the removal, either before or after the hardening process, of impurities producing discoloration by the action of a bath of melted chloride of sodium, or other chemical compound operating in like manner.

**71,920.**—ENOS E. STOW, Plantsville, Conn.—*Handles for Tea and Coffee Pots*.—December 10, 1867.—The hollow handle is perforated to allow the passage of air to keep it cool.

*Claim.*—A handle, as made hollow or tubular, and provided with openings in or through it, that when applied to a pot or vessel warm or heated air may be caused to pass into and through and out of such handle, substantially as and for the purpose specified.

**71,921.**—DANIEL TOWSE, Pittsburg, Pa.—*Aerial Carriage and Way*.—December 10, 1867.—The carriages are supported on an endless chain running on grooved pulleys that are worked by an endless belt at the upper end.

*Claim.*—The combination of the endless wire rope or ropes A A, pulleys T T T' T'', and piers B B B' B' with the suspended carriages H H H H, arranged and operating as specified.

**71,922.**—DANIEL TOWSE, Pittsburg, Pa.—*Aerial Carriage and Way*.—December 10, 1867.—The suspended carriage is drawn along the wire ropes by the draft rope that is wound on and off the reel by the endless band attached thereto.

*Claim.*—The combination of the wire ropes A A, piers B B B B, reel F, and rope P with the carriage H, arranged and operating in the manner set forth.

**71,923.**—DANIEL TOWSE, Pittsburg, Pa.—*Aerial Carriage and Way*.—December 10, 1867.—The two parallel pairs of ways of wire rope are supported on piers. A horizontal, grooved pulley drum is secured between the ways at their upper end; wire ropes, attached to suspended carriages running on the ways, are wound upon the wheel, and one carriage forms a counterpoise to the other.

*Claim.*—The combination of the two aerial ways A A' A'' A''', the drum C with the carriages H H and ropes *f f*, constructed and operating as specified.

**71,924.**—WM. B. TUCKER, Hillsboro', Ohio.—*Attachment to the Regulator of Watches*.—December 10, 1867.—The regulating lever is pivoted to the half plate of the movements, and carries a toothed segment whose teeth match in the spaces between the thread of the screw arbor, that works in bearing lugs, that rise from the inner extremities of the scale base-plate. The regulating lever passes under the screw arbor, and its pointed extremity indicates the position of the lever on the scale plate.

*Claim.*—The combination of the screw arbor *c* and the toothed segment *e* with the regulating lever *d* and the scale base-plate *a b*, substantially in the manner and for the purpose herein set forth.

**71,925.**—JOSEPH A. VEAZIE, Boston, Mass.—*Billiard Cue Tip*.—December 10, 1867.—The end of the cue has alternate plates of rubber and leather and an end coat composed as follows: caoutchouc, 50; ground leather, 25; refined chalk, 15; ground crocus, 5; and emery, 5 parts.

*Claim.*—The new or improved composition, substantially as described, in which ground leather is an important constituent.

Also, the combination of a layer of such composition and one or more layers or strata of leather or caoutchouc, or both, such being for the formation of cue tips, as explained.

**71,926.**—RICHARD VOSE, New York, N. Y.—*Car Spring*.—December 10, 1867.—The coil spring is made tapering from its upper edge. The spring is tempered in its coiled state in the bath.



*Claim.*—A volute spring, formed or constructed of a coiled metallic bar, whose thickness is greater transversely upon one edge thereof than at any other point therein, substantially as and for the purpose herein set forth.

**71,927.**—W. P. WAGE, Barre Center, N. Y., assignor to himself and M. CLARK, same place.—*Apparatus for Turning on Gas.*—December 10, 1867.—The water is forced through the pipe and exerts a pressure on the piston which forces it upward, raising the lever which opens the stop-cock at the same time that the wire is connected with a strong galvanic battery, the current from which heats the platinum coil sufficiently to ignite the gas. To turn off the gas, the water is exhausted from the pipe and cylinder, when the atmosphere forces the piston down, closing the stop-cock.

*Claim.*—First, the cylinder E and the piston F, in combination with the lever D, or their equivalent, operated by the means and in the manner and for the purpose specified.

Second, lighting gas by electricity, in combination with the apparatus above described for turning on gas, as shown and described.

**71,928.**—GEORGE H. WALDO, Prattsburg, N. Y.—*Horse Hay Fork.*—December 10, 1867.—The curved holding tine is secured to a bail hinged to the hooked tines, and when thrust into the hay is held by the hoisting rope which passes through an eye in the bail. To free the hay, the hoisting rope is drawn down by a rope and pulley, oscillating the tines on the pivots of the bail and opening the jaws.

*Claim.*—The tines *b b*, bail *f f*, curved holding tine I, spring J, pulley *l*, rope *k*, all constructed and operated substantially as herein set forth.

**71,929.**—J. H. WALKER, Worcester, Mass.—*Machine for Rolling Leather.*—December 10, 1867.—The leather is placed on the table, which is raised more or less by toggle levers, to regulate the pressure of the roller. The roller is journaled to a slide reciprocated by connection to a crank.

*Claim.*—First, the combination of the horizontal way G, slide H, and roll *b* with tables K and M and treadle-operating device, substantially as and for the purposes set forth.

Second, the combination with the pieces C C, of the truss rods E E, bridge F, way G, and slide H, substantially as and for the purposes set forth.

**71,930.**—SAMUEL H. WALLIZE, Washingtonville, Pa.—*Fertilizer and Corn Planter Combined.*—December 10, 1867.—The automatic slides furnish the guano to the spout in accordance to the progress of the machine. The rollers in the seed hopper above discharge the corn into the spout and keep it from choking with the guano.

*Claim.*—The arrangement of the devices, slide G and roller H, as connected and operating together, with the crank F, so as to drop the guano and corn through a single spout, to prevent choking, as herein described.

**71,931.**—D. T. WARD, Cardington, Ohio.—*Washing Machine.*—December 10, 1867.—The hinged horizontal board is connected by the pivoted arm to the segmental oscillating board that is actuated by the attached levers.

*Claim.*—First, the segmental or convex washboard E, actuated by levers D, in combination with the reciprocating washboard F and connecting arms H, substantially in the manner and for the purpose set forth.

Second, in combination therewith, the spring *j*, rod *k*, and slots *l*, arranged and operating substantially as described.

Third, the gate *p*, in combination with the horizontal reciprocating washboard F and tub A, arranged and operating substantially as and for the purpose set forth.

**71,932.**—JOHN R. WEBER, Bourbon, Ind.—*Corn Planter.*—December 10, 1867.—The elbow levers, when depressed by the driver's feet, by their connections elevate the plows. The dropping cylinders each have four radial holes for the reception of seed. Each hole in its turn passes under the orifice of the

reservoir and receives its quota of grains. At the end of a half revolution of the cylinder the hole becomes inverted over the mouth of the tube through which the corn falls into the furrow.

*Claim.*—First, the springs *m* on the shaft *e*, in combination with the dropping cylinders *k*, as and for the purpose described.

Second, the combination of the foot board *c''*, forked lever *d'' m''*, connecting rods *e''*, and cross-piece *h''*, arranged and operating as explained.

Third, the combination of the frame B, elbow levers *m'*, connecting rods *n' s'*, arms *o' t'*, and shafts *r' u'*, as and for the purpose set forth.

Fourth, the combination of the transverse shaft *r*, sliding bar *s*, hook *r*, pins *o*, block *n*, and dropping cylinders *k*, substantially as described.

Fifth, the combination of the crank *w*, arm *x a'*, spring *b'*, and sliding bar *s*, arranged and operating as set forth.

Sixth, the combination of the lever *a''*, shaft *v*, pinion *e'*, and spring *e'''*, when used independently or in connection with the frame B, substantially as and for the purpose described.

**71,933.**—DAVID S. WILLIAMS, Coldwater, Mich.—*Bed Bottom.*—December 10, 1867.—The slats are supported on rods that are connected with their duplicates by elastic bands. The slats are kept down in position by elastic keepers.

*Claim.*—The combination of the loop A, rods B, spring band C, rods D, webbing E, slats F, wires, or equivalent G, in the manner described.

**71,934.**—OSBORN WILSON, Aurora, Ill.—*Instrument for Administering of Anæsthetics.*—December 10, 1867.—The inhaling and exhaling tubes have valves working automatically and alternately in opening and closing the tubes by the respiration of the patient. A spring valve and air tube regulate the administration of the nitrous oxide or other anæsthetic.

*Claim.*—First, the construction of an instrument with inhaling and exhaling tubes, provided with valves working automatically and alternately in opening and closing the tubes by the respiration of the patient, substantially in the manner and for the purposes as herein specified.

Second, providing the instrument with a spring valve and air tube, for regulating the administration of the nitrous oxide and other anæsthetics, substantially in the manner and for the purposes as herein specified.

Third, the construction and arrangement of stock A, mouth piece B, inhaling and exhaling tubes C' C, plate D, air tube E', valve E, spiral spring *b*, valves *c e*, rods *d d*, fulcrum *e e*, arm *f*, and rod *g*, substantially in the manner and for the purposes as herein specified.

**71,935.**—MARTIN WINGER, Ephrata, Pa.—*Cider Mill and Press.*—December 10, 1867.—The perforated boxes have hinged bottoms supported on rollers over a grooved bed. The boxes form the outer circumference of a wheel with a flange provided with cogs. The pressing is performed by a spiral inclined plane over the boxes, which are rotated, filled, pressed, and their contents discharged automatically during each revolution. A stationary mill grinds the apples.

*Claim.*—First, a series of press boxes D with perforated sides and an external cogged flange *d*, all connected in the form of a wheel revolving horizontally, with its cross-arms N secured centrally to a vertical shaft L, in combination with the bearing M and step O, sustained on a framework A B B', all arranged substantially in the manner and for the purpose specified.

Second, with the revolving press boxes D the press block and central upright K B, pulley G, guides F, arms *e*, in combination with the inclined planes H and R, all arranged and operating substantially in the manner and for the purpose specified.

Third, in combination with the revolving box wheel D D N N and pressing arrangement, the hinged drop bottom Q in combination with a series of rollers or pulleys P, or their equivalents, for the purpose and in the manner shown and described.

Fourth, in combination with my horizontal box wheel the arrangement of the gearing and mill hop-



per X and crushers W V, pinions Y S on shaft T, all combined substantially in the manner specified.

Fifth, in combination with an apple mill a cider press, with a series of presses in a horizontal revolving wheel, substantially as and for the purpose specified.

**71,936.**—ALBERT WINTON, Chambersburg, Pa.—*Curb for Water Wheels.*—December 10, 1867.—The double curved, adjustable chute gates have tapering surfaces combined with stationary diaphragm plates, arranged together alternately at intervals. The chute gates are operated simultaneously by a circular plate with marginal forked, slotted arms.

*Claim.*—First, the serpentine or double curved chute gates O O when formed with surfaces tapering or sloping from their centers towards their ends, and so arranged, relative to intermediately situated diaphragms or plates r r that one of the tapering ends of said chute gates O O shall project beyond the circumferences of the rims a a e e, and extend so as to enter slots, or between the prongs of fork-like arms K L K L, to be operated in the manner and for the purpose substantially as described.

Second, the annular adjustable rim or ring i i, provided with the forked-like arms K L K L, and with the moving lever or crank m, and the fulcrum pin h, all arranged to operate the chute gates O O substantially as shown and described.

**71,937.**—JAMES WINTERS and CHARLES C. GAFFEN, Lacon, Ill.—*Harvester.*—December 10, 1867.—The line of draft of the lead horses is shifted on the side frame attached to the front of the tongue to counteract the lateral pressure of the machine.

*Claim.*—The skeleton frame A, or its equivalent, provided with an adjustable elevis, and attached to the end of the tongue of reaping and mowing machines, substantially in the manner and for the purpose herein described and represented.

**71,938.**—O. E. WOODBURY, Madison, Wis.—*Sash Stop.*—December 10, 1867.—The slotted cam forms bearings at either extremity for the screw, and renders the cam reversible so that it locks either up or down.

*Claim.*—First, the cam slotted at H D I, forming bearings at either extremity for the screw or other support, when the cam is operating against the catch C at the points F or O, all as described and for the purpose specified.

Second, the catch C with the spikes G G, constructed and used as and for the purposes hereinbefore named.

**71,939.**—CHARLES D. WRIGHTINGTON, Fairhaven, Conn., and BENJAMIN P. RIDER, Boston, Mass.—*Peat and Brick Machine.*—December 10, 1867.—The horizontal mold wheel has a series of incurved projections receiving the plain portion of the perimeter of the driving wheel, while the mold wheel is at rest, and the bricks are ejected from the molds by the pushers. The pushers are actuated by a cam on the drive wheel. The mold plungers are reciprocated horizontally by an eccentric.

*Claim.*—First, in combination with the mold wheel having the series or sets of molds in it, a series of plungers revolving with said wheel and operated in succession by the eccentric journal and frame Q, substantially as and for the purpose described.

Second, in combination with a mold wheel having a series of cogs interposed by a series of coneave stops, blanks, or abutments upon its periphery, a drive wheel, having cogs and a blank surface on its perimeter, so that the mold wheel may be moved, stopped, and locked by said drive wheel, which has a continuous movement, substantially as and for the purpose described.

Third, the location and arrangement of the cam over and around the blank on the perimeter of the drive wheel, so that whilst the mold wheel is stopped and locked by said drive wheel, which continues its movement, said drive wheel shall operate the pushers to discharge the pressed bricks or blocks from the molds, substantially as described.

**71,940.**—DERRICK ADAMS, Lansingburg, N. Y.—*Toy.*—December 10, 1867.—The driver's head and

whip arm and the horse's legs are pivoted and connected to two cranks on the rear axle, so that when the carriage is drawn over the carpet the parts named will move.

*Claim.*—An automatic toy having the legs of the horse and the head and arm of the driver actuated by mechanical devices, in manner substantially as herein described and for the purposes as set forth.

**71,941.**—PHILIP AHN, Brandon, Vt.—*Eaves Trough Fastening.*—December 10, 1867.—The bolt is attached to the house, and a flexible wire is hinged to the eye of the bolt. The wire passes around the opposite side of the trough to the bolt, and hooks into a slot in the latter.

*Claim.*—The bolt c combined with the elastic strap e, substantially as and for the purpose described.

**71,942.**—H. A. ALDEN, Fishkill, N. Y., assignor to NEW YORK RUBBER COMPANY.—*Inflating Rubber Balls.*—December 10, 1867.—The ball is inflated through the tube and bulb, and the tube then plugged up; the tube and bulb are then forced within the cavity of the ball.

*Claim.*—The application to rubber balls or other hollow articles requiring to be distended by inflation of the combined bulb and tube, substantially in the manner and for the purposes herein shown and set forth.

**71,943.**—CHARLES ALLARDICE, Cohoes, N. Y.—*Reamer.*—December 10, 1867.—The cutters are moved longitudinally by connection with a nut on the shank, and are driven outward in their guide slots by the conical end of the shank.

*Claim.*—First, a shank A, formed substantially as described, in combination with the cutters B and nut or screw ring C, the whole operating as set forth.

Second, in combination with the shank A, cutters B, and nut C, the nut e, bolt g, and washer g', formed as described, and employed for the purposes specified.

**71,944.**—WILLIAM H. ANDREWS, New Haven, Conn., assignor to BURTON MALLORY, same place.—*Bolt Attachment to Door Locks.*—December 10, 1867.—The follower has two projections, one of which enters a longitudinal slot of the bolt, and the other rests on a spring, by which the bolt is retained in either position as placed.

*Claim.*—The bolt E, constructed and arranged within the lock case in combination with the follower F, constructed with a cam i and spring H, so as to hold the bolt securely in both its locked and unlocked position, substantially in the manner herein set forth.

**71,945.**—ISAAC ANGELL, Malden, Mass.—*Mechanism for Presenting Palm Leaf to Looms.*—December 10, 1867.—The operation cannot be briefly described. The object and means are stated in the claims.

*Claim.*—For employment, in connection with a loom for weaving with palm leaf or similar weft, a mechanism, substantially as set forth, which automatically presents in succession the entering ends of single pieces of weft, in such position with relation to the cross-sectional form of each that each piece will be carried into the shed or web flatwise.

Also, the mechanism for effecting the elevation and release of the weft, substantially as described.

Also, the plate d, with its rectangular perforations, and the gate or slide for clamping a single piece of weft projecting through the plate, substantially as shown and described.

Also, a mechanism, substantially as set forth, for "knocking off" the weft-raising mechanism when a piece of weft is presented.

**71,946.**—WM. ARROQUIER, Worcester, Mass.—*Blackboard for Schools.*—December 10, 1867.—A coat of the following composition is spread over common plaster. Powdered pumice stone, lime, and lampblack, in equal proportions, are mixed with water and applied with a trowel, after which the surface is slightly roughened with a kid glove or pad.

*Claim.*—Covering the plaster B with a coating C composed of the ingredients named, and applied in the manner above described, whereby the proper color and roughness are obtained, as set forth.



**71,947.**—CHARLES E. BACON, Buffalo, N. Y., assignor to himself, GEO. A. PRINCE, and CALVIN F. S. THOMAS, same place.—*Operating Swell in Melodeons.*—December 10, 1867.—The swell of the melodeon is operated by pedals contiguous to those of the bellows, so that the operator can open or close the swell in whole or in part, independently, though simultaneously, with the operation of the bellows pedal.

*Claim.*—The arrangement of the swell pedals side by side with the bellows pedals, and contiguous to and parallel therewith, for the purpose and substantially as described.

**71,948.**—WM. C. BAKER, New York, N. Y.—*Material for Transmitting Heat.*—December 10, 1867.—Improvement on his patent October 16, 1866. Explained by the claim.

*Claim.*—The employment of salted water, glycerine, or their equivalents, to prevent freezing, in transmitting and diffusing heat through ordinary pipes, tubes, or radiators, for the purpose of warming and ventilating railroad cars, public vehicles, and buildings, substantially as herein described.

**71,949.**—GEORGE E. BALDWIN, West Meriden, Conn., assignor to E. MILLER & Co., same place.—*Lamp Burner.*—December 10, 1867.—A ventilator tube runs down beside the wick tube to supply air as the oil is exhausted, thus to check formation of gas, and to allow its escape when formed.

*Claim.*—The arrangement of the auxiliary or ventilating tube E with the wick tube B, combined with a solid partition F in the base of the burner, so as to form a close chamber around the tubes and wick adjuster, substantially in the manner and for the purpose herein set forth.

**71,950.**—B. BANNISTER and G. F. GREEN, Kalamazoo, Mich.—*Automaton Tooth Plugger.*—December 10, 1867.—The valve rod slides in the cross-head, and they are connected by a spiral spring. An arm connecting the valve rod and valve stem slides on a pivoted lever, on which the cross-head also slides; the latter operates the lever to permit the movement of the valve when the piston is at the end of its stroke.

*Claim.*—First, the combination of an engine, operated by means of compressed air, with a tooth plugger, for the purpose set forth and described.

Second, the lock F, in connection with spring I, operated by cross-head of piston rod, in the manner and for the purpose specified.

**71,951.**—WM. F. BARLOW, Monmouth, Ill., assignor to himself, JAMES BOWER, and W. A. JACKSON, same place.—*Car Coupling.*—December 10, 1867.—The lower arm of the angular catch engages the link, and to its horizontal arm is attached the rod by which it is drawn up for uncoupling. A weight is hinged to the catch which rests on the inner end of the link, and keeps it in a horizontal position when coupling with another car.

*Claim.*—First, the catch C, slotted draw head A, and weight X, combined as described and for the purpose set forth.

Second, the rods M N and H and elbow K, combined as described, and operating in combination with the elements of the first claim, arranged substantially as described and for the purpose set forth.

Third, the weight X, arranged as described for the purpose set forth.

**71,952.**—JOHN BARNES, Rockford, Ill.—*Harvester Rake.*—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, the inclined serrations *h h h* on the face of the rake head, for the purpose of compacting the gavel.

Second, a compressor or supplementary rake pivoted to the rake handle and moving parallel to the rake head, substantially as described.

Third, the combination, substantially as described, of an automatic rake, a compressor, and an interposed spring, for the purpose set forth.

Fourth, the combination, substantially as described, of a reel revolving continuously on a horizontal shaft, a rake mounted on the same shaft, (on trunnions arranged diagonally to the shaft,) and a shipping device, by which the rake may be thrown into gear be-

tween any two of the beaters of the reel, and by which it may automatically be thrown out of gear at the end of its stroke.

Fifth, the combination, substantially as described, of the inclined rake handle with the trunnions or pivots revolving on the reel shaft, and arranged diagonally thereto.

Sixth, the combination, substantially as described, of the rake handle pivoted on trunnions diagonal to the reel shaft and the friction roller, with a guide vertical below the axis of the rake, and deflected both horizontally and laterally above that axis, as and for the purpose set forth.

Seventh, the combination, substantially as described, of the rake handle and shipping lever, whereby the rake throws itself out of gear after discharging the gavel.

Eighth, the combination, substantially as described, of a rake mounted on trunnions, revolving on a horizontal axis in a fixed relation to the guide which controls the movements of the rake, with a revolving reel having an endwise movement on the same axis, whereby the rake can be thrown out of gear by moving the reel endwise without stopping the reel.

**71,953.**—SAMUEL N. BATCHELDER, Prairie du Chien, Wis.—*Try Square and Bevel.*—December 10, 1867.—The pivoted blade is drawn in one direction by a spiral spring and has a toe resting against the projection of an adjustable plate by which it is retained to any angle. The angle between the head bar and blade is denoted by an index plate.

*Claim.*—First, the blade B pivoted within the stock A, and provided with a hooked projection *e*, by means of which, and the hook slide D, the blade B may be set and held at any desired angle, substantially as described and for the purpose specified.

Second, the hook slide D within the thumb screw E, arranged and operating substantially as shown and described for the purposes set forth.

Third, the spiral spring F, in combination with a combined try square and bevel, substantially as described.

**71,954.**—DAVID B. BEATY, Anrora, Ind., assignor to himself and JAMES LAMB.—*Plate Lifter.*—December 10, 1867.—Three hooked wires are hinged to the end of a handle so that the hooked ends take under the edge of the plate. The hooks are released by depression of the pivoted trip wire.

*Claim.*—The curved wires B B B, having hooks at their lower ends and connected to a handle A, said handle being provided with a wire loop formed into a spring, which connects to the wires B, so that, by pressing upon this spring C, the wires B are caused to separate and release the plate, all constructed as specified.

**71,955.**—CHARLES BENDER, New York, N. Y.—*Suspension Bridge.*—December 10, 1867.—The trusses are connected by yielding joints at certain places. The chains are attached to the bridge and not to abutments. The ends are so secured to the piers as to allow of expansion, while no movement is admitted at the central piers.

*Claim.*—First, the construction and arrangement of one or more yielding joints, connecting the beams or trusses of stiffened suspension bridges, substantially as herein described.

Second, the attachment of the ends of the cables or chains, at or near the first or shore piers, to the longitudinal beams or trusses of stiffened suspension bridges, substantially as set forth.

Third, the means and method by which the ends of the beams or trusses of stiffened suspension bridges are secured to the shore piers by vertical anchorage, and the arrangement of suitable joints *v* in said anchors, substantially for the purpose described.

Fourth, the means and method employed to reduce the side motion, by attaching the longitudinal beams or trusses of stiffened suspension bridges to the central piers sidewise, said attachment being on one pier perfectly immovable in any horizontal direction, while at the other piers allowance is made for the variations of the length of the beams, substantially as set forth and described.

**71,956.**—OLE K. BERNBAUM, Brooklyn, N. Y.—*Folding Trunk.*—December 10, 1867.—The ends of



the trunk are folded down inside and the sides are hinged at top and bottom and at midlength, to fold inward and permit the near approach of the top and bottom, to reduce the trunk to small bulk when it is empty.

*Claim.*—The folding ends, in combination with the hinged sectional back and front, for the purposes herein fully described.

**71,957.**—CHARLES H. BERRY, East Somerville, Mass.—*Sofa Bedstead.*—December 10, 1867.—The cushion frame is hinged to the lower portion, and is opened out to form part of the bedstead. A detachable panel serves to form the sofa front, and hide the hinges.

*Claim.*—The combination of the lower portion *a*, the seat *b*, and head *d*, and the hinged or movable panel *e* in a sofa or lounge, substantially as and for the purpose described.

**71,958.**—THOMAS BISBING, Buckstown, Pa.—*Churn.*—December 10, 1867.—The shaft of the vertical dasher has rotary reciprocation by the meshing of its pinion with a reciprocating rake, impelled by its connection with a crank.

*Claim.*—The combination of the removable frame *B*, sliding frame *C*, ratchet bar *G*, and pinion wheel *H* with each other, with the body *A* of the churn, and with the dasher shaft *I*, substantially as herein shown and described, and for the purpose set forth.

**71,959.**—JOB W. BLACKHAM, Brooklyn, N. Y.—*Hat-felting Machine.*—December 10, 1867.—The hat bodies are passed between a horizontal series of rotating rollers, and a reciprocating presser which has transverse ribs and is depressed by springs. A tank of water beneath the rolls is supplied with perforated steam pipes. Jets of steam issuing from the perforations throw up water upon the rolls. The arrangement is duplicated to allow the bodies to be delivered on the side of entrance.

*Claim.*—First, the duplicate series of rolls *b* and *b'* and rubbers *C* and *C'*, or their equivalent, with their water pans *N* *N'* and jets of hot water or steam as represented, arranged to operate together in the manner and for the purpose herein specified.

Second, mounting the reciprocating rubber over the bed of rolls so as to allow of its ascent and descent by means of springs, substantially as and for the purpose herein specified.

**71,960.**—JOHN E. BLISS, Oxford, Ind.—*Builder's Scaffold.*—December 10, 1867.—The platform is sustained against the wall by the extensible props reaching from the ground to the inner angle between its horizontal and vertical parts.

*Claim.*—The combination of the right-angled pivoted frame *A* and adjustable sliding bars *B* and *D* with each other, substantially as herein shown and described and for the purpose set forth.

**71,961.**—RUFUS K. BLODGETT, Fulton, Ill.—*Substitute for Milk for Cattle.*—December 10, 1867.—Wheat, rye, or other flour of small grain, 1 lb.; clay, 6 drachms; catechu, 1½ drachms, mixed with water to form a drink. For young stock it is boiled.

*Claim.*—First, the use of white or blue clay, when used for the purpose above specified.

Second, the combination of flour, catechu, and clay, when mixed and used for the purposes above set forth.

**71,962.**—JOHAN BLOMGREN, Galesburg, Ill.—*Fire Ladder.*—December 10, 1867.—The extensible quadrangular tube is in telescopic sections, and is raised by a series of cylindrical blocks which have racks for engagement on a cog wheel by which they are forced into the tubes. The blocks are graduated in size so as to fill the space left by the elevation of the different sized tubes. At the top of the tube is carried a cross head over which a cord passes for the hoisting and suspension of a basket.

*Claim.*—First, the stuffing coil *O* inserted into the lower part of the tube *H* *H'*, and forced up or down in the tube by the cog wheel *M*, substantially as and for the purpose specified.

Second, the basket *R*, in combination with a fire escape, having the hinged side *T* and the adjusting rod *S*, substantially as and for the purpose described.

Third, construction of the stuffing coil *O*, substantially as and for the purpose specified.

**71,963.**—CHARLES BOWLEN, Milwaukee, Wis.—*Safety Gun Lock.*—December 10, 1867.—The tumbler has a catch which enters a cavity in the sear when the hammer is down. The hammer cannot be cocked until the tumbler is released by pressure on the trigger.

*Claim.*—Tumbler *F*, with its pin *G*, in combination with dog *H*, with its slot *I*, substantially as and for the purpose described.

**71,964.**—THOMAS BOYD, Cambridgeport, Mass.—*Ventilator for Buildings.*—December 10, 1867.—The heated air ascends into a chamber, from which it issues beneath a conical cap supported by a ball and socket joint, so as to close the windward and to open the leeward side of the opening.

*Claim.*—First, the combination of the chamber *A* with or without the lenses *B*, cone *C*, and rods *D*, constructed and arranged to operate substantially as and for the purpose set forth.

Second, the combination of the oscillating cap *K* and elastic pads *I*, substantially as and for the purpose set forth.

Third, the arrangement of the chamber *A*, cone *C*, pipes *E* and *H*, and cones *G* and *K*, substantially as set forth.

**71,965.**—P. BRADFORD, New Haven, Conn., assignor to SARGENT & CO., same place.—*Door Latch.*—December 10, 1867.—The latch is operated by direct action of the knob, whose shank is attached to the latch, and traverses a curved slot in the plate.

*Claim.*—The construction of the latch bolt, with the pivot bearings *a* and *b* on opposite sides, combined with a single central pivot upon the plate, so as to be adjustable for a right and left hand door, and the said plate constructed with a slot through which the latch is operated, in the manner herein set forth.

**71,966.**—HARVEY BRIGGS, Smithland, Ky.—*Plow.*—December 10, 1867.—The bearing surfaces of the ground bar, landside, and moldboard have anti-friction rollers, whose journals are protected from dirt by rubber washers.

*Claim.*—First, forming the landside, moldboard frame, and upper and lower strengthening floors *b*<sup>1</sup> and *b*<sup>2</sup> solid in one piece *B*, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the conical rollers *D* and their boxing frame *H* with the moldboard frame *B*, substantially as herein shown and described and for the purpose set forth.

Third, forming the boxing frame *H* in two parts, substantially as herein shown and described and for the purpose set forth.

Fourth, forming an oil trench or channel *J* in the boxing frame *H*, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of the elastic washers or packing *I* with the journals and bearings of the rollers and wheels, substantially as herein shown and described and for the purpose set forth.

Sixth, the combination of the adjustable friction wheel *F* and stationary friction wheel *E* with the solid landside and moldboard frame *B*, substantially as herein shown and described and for the purpose set forth.

Seventh, the combination of the vertical flanged friction roller *G* with the landside of the plow, substantially as herein shown and described and for the purpose set forth.

**71,967.**—JOSHUA BRIGGS, Peterboro', N. H.—*Piano Stool.*—December 10, 1867.—Improvement on his patent, October 23, 1866. The legs are attached to a central metallic socket piece, into which a projecting portion of the stem enters, and is then clamped fast by a bolt. Steady pins on the legs enter the horizontal shoulder of the stem. The top is removable from the adjusting screw, after loosening a set screw.

*Claim.*—In combination with the pillar and feet, the socket block *m*, having recesses formed with side lips or flanges *o*, to fit into grooves *q* in the feet, and bottom seats *p*, between which and the shoulder on the pillar the feet are securely confined, substantially as described.

Also, the center piece *w'*, fitting upon and covering



the screw bolt and nut which confine the pillar to the base, substantially as shown and described.

Also, constructing the socket block *m* with a center socket *t*, into which the tail piece of the pillar fits and is confined, substantially as described.

Also, making the screw spindle removable from the seat, substantially as set forth.

**71,968.**—T. E. C. BRINLEY, Louisville, Ky.—*Plow*.—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, the mode of attaching the beam *D* to the plows by a socket *C*, connected with the land-side by braces *B B*, substantially as set forth.

Second, the combination of socket *C*, constructed with diagonal flanges *C'*, the handles, and the beam, substantially as set forth.

**71,969.**—S. P. BROOKS, Somerville, Mass., assignor to himself and BENJAMIN WOODWARD, same place.—*Combined Shovel and Sifter*.—December 10, 1867.—The shovel has closed top and sides to prevent the escape of dust, and the perforated bottom allows passage to ashes.

*Claim.*—The within-described combined shovel and sifter, constructed and operating substantially as set forth.

**71,970.**—ALLEN H. BROWN, May's Landing, N. J.—*Seat and Desk*.—December 10, 1867.—The desk leaf lets down when not required, and when raised is sustained by sliding braces whose notches engage their guiding staples.

*Claim.*—The hinged brace *J*, passing through the guides *M* upon the inside of the ends *B* of the seat, and hinged to the outer edge of the folding desk *H*, all arranged as described, whereby the gravity of the brace *J*, as the desk is raised, causes the L-shaped notch *L* to fit and catch in the guide *M* to hold the said desk raised, for the purpose specified.

**71,971.**—E. G. BULLIS, Manchester, Iowa, assignor by mesne assignments to D. E. LYON, Dubuque, Iowa.—*Grain Fork*.—December 10, 1867.—A V-shaped sliding cutter is driven forward by a lever to sever the band while passing the sheaf to the threshing-machine feeder.

*Claim.*—First, the combination of a band-cutting device with a pitching-fork, substantially as and for the purposes described.

Second, the combination of the rearwardly-extended parts of the tines *C*, the cross-head *B*, grooved bars *E*, sliding cutter *F*, and springs *L*, with each other, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the pivoted or jointed bars *G H I* with the sliding cutter *F*, shank *J* of the fork head, and handle *A*, substantially as herein shown and described and for the purpose set forth.

**71,972.**—MATTHEW S. BURDICK, Milton Wis., assignor to himself and JOHN M. MAY.—*Seed Planter*.—December 10, 1867.—The sides are connected by a flexible apron and carry a seed hopper on each side, from which the pumpkin seed and corn are drawn by the curved seed slides and dropped into the spout.

*Claim.*—First, thumb screw *I*, in combination with part *H* and seed-cup bar *D*, when constructed, connected together, and used substantially as and for the purposes described.

Second, seed-cup bar *E* or its equivalent, when combined with seed-cup bar *D* in the same planting machine, so that corn and pumpkin seed and other flat seeds, as squash and melon seeds, may be planted at one operation, substantially as described.

Third, spring *O* or its equivalent, attached to and combined with seed-cup bar *E*, substantially as and for the purposes described.

Fourth, jaws or points *F* and *G*, provided with partitions *h* and *h*, for the purpose of dividing the seed, when used in combination with parts *A* and *A'*, *B* and *D* and *N*, substantially as described.

Fifth, a general arrangement and combination of legs or bars *A* and *A'*, hoppers *B* and *C*, seed-cup bars *D* and *E*, covering *N*, and jaws *F* and *G*, when constructed, connected together, and used substantially as and for the purposes described.

**71,973.**—JOHN A. BURNAP, Albany, N. Y.—*Pulley Block*.—December 10, 1867.—The pulley arbor has a central pin surrounded with anti-friction rolls, which are held in position by the guide frame that rotates with them.

*Claim.*—The arrangement of the frame *E* and pulley *F*, through the eye of which is inserted the frame *A*, having a series of rollers *a a*, the whole constructed and used substantially as specified.

**71,974.**—J. S. BUTTERFIELD and JOSEPH A. READ, Philadelphia, Pa.—*Sad Iron*.—December 10, 1867.—The handle is detachable and serves for a set of irons. Projections on the handle enter notches between the sectors on the stump of the iron, and catch below the said sector flanges when the handle is rotated to working position, in which it is retained by a pin.

*Claim.*—First, the steadying pin *d''*, in combination with the sectors *d''' d'''* on the guard plate *d'*, the said parts being constructed and arranged to operate in connection with the planes *a''' a'''* on the projection *a'*, substantially as and for the purpose described.

Second, the projection *a'* on the base *A B*, with its two opposite sectors or inclined planes *a'' a''*, constructed and arranged to receive and hold down the inward ends *c'' c''* of the feet of the handle *C D*, substantially as described and set forth.

Third, the projecting ends *c'' c''* of the handle *C D*, constructed and arranged to operate in combination with the spaces *b' b'* and planes *a'' a''*, substantially as and for the purpose described.

**71,975.**—SETH P. CARPENTER, Milford, Mass.—*Pruning Shears*.—December 10, 1867.—The lever is moved on its fulcrum by the thumb and simultaneously moves its corresponding lever, opening and closing the blades of the pruning shears as required.

*Claim.*—The new or improved manufacture of pruning shears, as hereinbefore described, that is, as composed of the blades *a b*, the lever *C*, the long shank *B*, the lever *D*, the open handles *C C'*, the arm *f*, and the rod *g*, arranged and combined in manner and for the purpose, and to operate substantially as specified.

**71,976.**—FRANCES H. CARRIER, Bridgeport, Conn.—*Wash Stand and Clothes Dryer*.—December 10, 1867.—The stand has a single vertical stem giving support to the wash basin, extensible towel bars, and cups for the reception of pincushion, &c.

*Claim.*—First, the combination of the clothes drying apparatus with the wash basin, when they are constructed, arranged, and fitted for use substantially as herein described and set forth.

Second, the combination of the cups *b c d*, or their equivalents, with the wash basin, when they are constructed, arranged, and fitted for use as a toilet apparatus, substantially as herein described and set forth.

**71,977.**—JOHN T. CARTER and JOHN PARK, Lowell, Mass.—*Spice Case*.—December 10, 1867.—The case has a series of shelves, with boxes between, so pivoted as to swing out. Springs beneath the boxes keep their upper rims in contact with the shelves and prevent the weakening of the spices from exposure to the air.

*Claim.*—First, the cups or boxes *c c*, when arranged to operate substantially as described and for the purposes fully set forth.

Second, the springs *k k*, in combination with the cups or boxes *c c*, for the purpose described and set forth.

Third, the combination and arrangement of the case *a* with its feet *d d d*, handle *e*, loop *f*, and shelves *b b b b*, cups or boxes *c c*, and springs *k k*, all for the purposes substantially as described and set forth.

**71,978.**—JONATHAN CARTER, Winchendon, Mass.—*Apparatus for Painting and Graining Pails, &c.*—December 10, 1867.—The pail is placed on a block rotated by a winch, and the pattern roller is brought alternately in contact with the pail and iuking roller by the action of a treadle and weighted cord. The surface of the pattern roller is made in removable segments.



*Claim.*—First, the combination of the flexible painting or die printing roll with the supplying roller, for painting, graining, ornamenting pails or other tapering articles.

Second, the mechanism for holding and revolving the pail, when mounted on a bench or table, in combination with the movable printing or die roll, operating substantially in the manner as and for the purposes set forth.

Third, casting, graining, or other ornamental configurations on conical rolls, so as to form a continuous body, for the purposes herein described.

Fourth, making die or printing conical rolls in sections and securing them to the staves, so as to change their position for making a greater variety of ornamental designs for graining and ornamenting hollow ware, substantially as and for the purposes set forth.

Fifth, applying a smooth coat or body of paint or varnish with a flexible roller to pails, tubs, or other articles of hollow ware, substantially in the manner herein set forth.

**71,979.**—THOMAS CARTER, Louisville, Ky.—*Sawyer's Rule.*—December 10, 1867.—The scale is graduated to generalize the arrangement of its numbers, so as to facilitate the measurement of lumber.

*Claim.*—First, a scale so constructed and adjusted that any two of the three quantities of the thickness of the planks, the diameter of the log, and the number of the planks cut or to be cut from the log being given, the third of said quantities is read off from the scale in the manner substantially as above set forth and described.

Second, a scale exhibiting the number of turns to be given to the screws of the log-carriage for cutting plank or boards of any desired thickness.

**71,980.**—JOHN CHATILLON, New York, N. Y.—*Cast Metal Case for Spring Balance.*—December 10, 1867.—The metallic plate has a perforated aperture for the reception of the pin that holds the spring.

*Claim.*—A cast metal case for spring balances, when provided with a perforated or slotted upper head for the reception of the pin *b*, and when made substantially as and for the purpose herein shown and described.

**71,981.**—GEO. CLARK, Buffalo, N. Y.—*Vacuum Grain Drier.*—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, the three essential features or parts—the air-tight grain chamber, the radiating heating pipes or floors, and the vacuum-producing apparatus—combined and operating substantially as herein set forth.

Second, the arrangement of the steam heating pipes within the grain chamber, substantially as set forth.

Third, the graduated gauge-vessel *H*, arranged as and for the purpose set forth.

**71,982.**—FRANCIS CLYMER, Galion, Ohio.—*Door Latch.*—December 10, 1867.—The hasp attached to the door frame acts also as a latch. By means of screw bolts passing through slots in the door the height of the latch may be adjusted when the door sags from use.

*Claim.*—The mode of attaching the combined latch and hasp *B* and staple *F* to doors by means of slots *I* and *II*, so as to permit the adjustment of the same, substantially as set forth.

**71,983.**—GEO. H. COE and GEO. H. SNOW, New Haven, Conn.—*Clamp.*—December 10, 1867.—The pivoted expansion nut opens out to allow the screw to be placed nearly to its position before commencing to screw.

*Claim.*—The herein described clamp, consisting of the head *C* upon one arm of the body *A*, the opposite arm provided with a corresponding foot, and the said head having arranged therein levers *D*, and combined with a screw *B* so as to operate to clamp between the screw and the foot, substantially as set forth.

**71,984.**—D. L. COHEN, Pensacola, Fla.—*Boat Detaching Tackle.*—December 10, 1867.—The lever is held in a vertical position by a notched bar which is retained by a pin. Attached to the lever are bars

proceeding fore and aft, respectively, and holding in their seats the notched bars which depend from the davit-falls. The oscillation of the lever disengages the ends simultaneously.

*Claim.*—The combination of the notched bars *a a* with the grooved blocks *B B*, the sliding blocks *C*, pitmen *D D'* and lever *F*, substantially as and for the purpose described.

**71,985.**—JAMES R. COLE, Kenton Station, Tenn.—*Apparatus for Elevating Water.*—December 10, 1867.—By a system of pumps and pipes the water is elevated, to be used in its descent as a motive power.

*Claim.*—First, the combination of the chamber *F*, provided with the short pipes *p p'* and the pipes *p''*, with the pumps *G H* and the chambers *C D E*, substantially as and for the purposes described.

Second, the combination and arrangement, for the purpose described, of the chambers *C D E F*, pipes *p p' p'' P P' P''*, and pumps *G H*, the latter working alternately, so as to maintain a constant pressure upon the water in the chambers, substantially in the manner specified.

**71,986.**—T. A. CONKLIN, New Britain, Conn.—*Manufacture of Tack Hammers.*—December 10, 1867.—The hammer has an elongated slot in its handle, and a claw hook at the near end for drawing tacks.

*Claim.*—As a new article of manufacture, a tack hammer, constructed in the manner and with the characteristics herein specified, for the purposes set forth.

**71,987.**—WILLIAM CONNER and CHARLES W. MITCHELL, Wilmington, Del.—*Floor Clamp.*—December 10, 1867.—The side blocks are set to the timber, and secured in position in the frame by their clamping screws. The screw is then brought to bear on the plank, which action tightens the frame by movement of the sliding wedges.

*Claim.*—The combination of the frame *a* with the screws *b* and *d d*, with the wedge blocks *e e*, wedges *f f*, and plates *i i*, constructed and arranged, as herein described, to operate as a clamp for clamping ship-timber, flooring, and other carpenters' work.

**71,988.**—GEORGE COOKE, Winchester, Mass.—*Button.*—December 10, 1867; antedated December 6, 1867.—The shank has a circumferential groove near each end. The heads are concavo-convex and perforated. The head is placed on the shank, and the edge of its orifice contracted within the groove by reduction of the head to a flat disk.

*Claim.*—A button or stud, its shank attached by means of a disk formed concave, and subsequently compressed, substantially as described.

**71,989.**—FRANCIS C. COPPAGE, Terre Haute, Ind.—*Harvester.*—December 10, 1867.—The reel post is hinged at its foot, and its adjustment is maintained by a curved arm and set screw. Its foot is supported in a shoe attached to the finger bar and pivoted with it. A slot and bed support and guide the cutter and its pitman. A brace is hinged to the front end of the shoe, and the whole system of braces is also hinged to a projection from the forward part of the frame.

*Claim.*—First, the combination of the double or alternate step wheel *E*, having the inclined steps *e e e*, with the two stepping dogs *D D'*, and the springs *x x*, when the said parts are constructed and arranged substantially in the manner and for the purposes described.

Second, the combination and arrangement of the adjusting rod *n o''* with the cylindrical sleeve *O*, the sleeve or slide *O'''*, the post *P*, and the reel *O''''*, in such a manner that while the post *P* supports the reel the elevation of the latter is adjusted by the compound rod *n o''*, substantially as and for the purposes specified.

Third, the rod *H*, having the crank *h* and the worm *h'*, in combination with the worm segment *i*, the shaft *I*, the winding arm or segment *i'*, and the chain *K*, substantially as and for the purpose specified.

**71,990.**—A. C. CORPE, Stafford, Conn.—*Machine for Stretching Cloth.*—December 10, 1867.—The cloth is first passed between two pairs of horizontal rotating disks; the upper ones are slightly inclined to the outer and front side so as to stretch and smooth the



cloth. After passage between the disks the cloth passes over cylindrical stretching rolls.

*Claim.*—First, the two gear clamps B B, composed each of two wheels *a a'*, one placed above the other, and the upper wheels arranged so as to be capable of adjustment both vertically and laterally, substantially as shown and described.

Second, the arrangement of gearing, as shown, in connection with the gear clamps B B and roller C, whereby an equal movement of the clamps is insured, substantially as shown and described.

Third, the supplemental frame E, provided with the roller D, upon which the cloth is wound, in connection with the gearing *k u*, clutch *o*, driving pulley *m*, and shaft *l*, all arranged substantially as shown and described.

**71,991.**—BENJAMIN R. COTTON, Lewiston, Me.—*Roller for Dressing.*—December 10, 1867.—Improvement on his patent, April 23, 1867. A copper wire is wound around the soapstone roll, and surface metal is then attached thereto, and turned down to cylindrical form. The roller may be coated without the intervention of the wire, by drawing a sheet metal cylinder over it.

*Claim.*—As an improved dresser roll, a stone roll covered with the surfacing metal or metal composition, substantially as set forth.

Also, the method of surfacing a roll by placing around or over a central roll a metal frame as a base upon which to cement the surface metal, and the surfacing such frame, substantially as set forth.

**71,992.**—JAMES A. COUNTS, Indianapolis, Ind.—*Wagon Lock.*—December 10, 1867.—The spring catch slides in the main lever, and is withdrawn from the rack by a small lever to which it is connected.

*Claim.*—The catch *g*, the bands *h h*, the spring *f*, the bar *e*, lever *k*, for the purposes set forth and described.

**71,993.**—JAMES B. COVERT, Townsendville, N. Y.—*Hame Tug.*—December 10, 1867.—The metallic extension strip is secured to the hame tug by projected lugs that fit into the slots of the tug.

*Claim.*—First, the metallic hames tug A, provided with the V-shaped openings C, having inclined sides, and the tongues D, adapted to receive the V-shaped block O, formed upon the block N of the trace strap, said block O held in place by means of the pin upon the spring lever stop Q, fitting in the groove P in the end of tongue D of the hames tug, as herein described for the purpose specified.

Second, the hame clip, fastened by bolts to the hames tug, substantially as herein described and for the purpose specified.

Third, the block N upon the trace strap, when provided with the V-shaped block O, and the spring lever Q, as herein described for the purpose specified.

**71,994.**—JAMES S. CRUMP, Williamsburg, Mo.—*Harvester Rake.*—December 10, 1867.—The grain falls upon the adjustable deflecting boards and tilting platform, the boards deflecting it inward, and it is discharged by tilting the platform, which is accomplished by the treadle by bringing a friction roller in contact with the pendent lever which supports the platform. The platform is restored to position by a spring.

*Claim.*—First, the curved eccentric arm I, applied to the rock-shaft E, and operated in the manner and for the purpose described.

Second, the swinging lever M, or its equivalent, in combination with the curved eccentric arm for operating the platform, as described.

Third, the arrangement of one or more springs, in combination with the curved eccentric arm I, for the purpose set forth.

Fourth, the manner of adjusting the height of the swinging platform upon the supporting arms and uprights, as described.

Fifth, the adjustable cant or deflecting boards C, in combination with the swinging platform, as described.

**71,995.**—S. W. CURTISS, Sugar Grove, Pa.—*Washing Machine.*—December 10, 1867.—The fluted rollers mesh together; they have elastic bearings and press the clothes between the corrugated surfaces.

*Claim.*—An improved washing machine, consisting of the box A, provided with blocks H and roller

E, the hinged frame B, having rollers C D and handle G, all constructed, arranged, and operating as and for the purpose set forth.

**71,996.**—FRANCIS DEGEN, Newark, N. J.—*Machine for Forming Hat Bodies.*—December 10, 1867.

—The perforated cone on which the hat body is formed has a cap to prevent the formation above a certain line. The trunk has a slide which may cover the upper part of the mouth and prevents the issue of the "stock" from that port.

*Claim.*—First, a hat body, formed partly of common and partly of fine stock, by first blowing on the cone a belt of fine stock, then over the whole cone a quantity of common stock, and finally a quantity of fine stock, substantially as set forth.

Second, the close-fitting cap B, in combination with the perforated cone A of a machine for forming hat bodies, substantially as and for the purpose described.

Third, the slide D, in combination with the trunk C, cap B, and perforated cone A, substantially as and for the purpose set forth.

**71,997.**—S. DENISON, Portlandville, N. Y.—*Mail Bag Fastener.*—December 10, 1867.—The pivoted hooks engage in the staple when actuated by the lever, and are secured in position by the lock, hasp, and staple.

*Claim.*—The hooks C, constructed substantially as herein shown and described, in combination with the straps D and F, with the bag B and staples A, as and for the purpose set forth.

**71,998.**—HENRY J. DILL, Cummington, Mass.—*Saw Buck.*—December 10, 1867.—The adjustable toothed clamps for holding the stick are brought in contact with, by bearing on, the treadle. The clamps are thrown apart by the action of springs.

*Claim.*—The clamps D, the treadle E', the arms E, springs F', and rods F, constructed, arranged, and operating in combination with the stationary part A, substantially as shown and described, for the purpose set forth.

**71,999.**—THOMAS DOANE, Boston, Mass.—*Carriage for Rock Drills.*—December 10, 1867.—The frame, on whose front rails the drilling machines are supported, is run on wheels and rails, and has vertical clamping screws to press against the bottom and top of the tunnel. The frame can be canted on its fore wheels.

*Claim.*—First, the arrangement of the round bars E F G and H of a rock-drill carriage into a frame for the reception of rock-drilling machines, which shall be able to reach therefrom any point where it is desirable to bore a hole, substantially as and for the purpose described.

Second, the position of the horizontal round bars E and F, under an acute (more or less) angle *d* to the side frame of a rock-drill carriage or to the alignment of the tunnel, substantially as and for the purpose set forth.

Third, the construction of a rock-drill carriage, for driving a tunnel or mine, so as to swing in a vertical direction on the forward wheels and axle, substantially as and for the purpose specified.

**72,000.**—JOHN H. DOWNING, Salem, Mass.—*Railway Chair.*—December 10, 1867.—The rails are formed in two parallel parts with lap joints; the narrow chairs have single heads placed on each side of the rail to clamp the two parts and fasten them to the ties.

*Claim.*—The single-headed chair A, in combination with a sectional railroad rail, arranged as and for the purpose shown and described.

**72,001.**—JOHN DOYLE, Hoboken, N. J., and TIMOTHY A. MARTIN, New York, N. Y.—*Rotary Pump.*—December 10, 1867.—The valve and air passages are arranged in a hollow cylinder, which has an oscillating movement and is provided with a chamber to receive water, mercury, or other fluid, thus forming a pump or blower.

*Claim.*—The two drums A C, placed concentrically one within the other, the chamber D, air passages E E', valves F G, and tubular journals B B', all arranged and combined to operate in connection with



water or other liquid placed in the space or spaces between the two drums A C, substantially in the manner as and for the purpose specified.

**72,002.**—JAMES F. DRUMMOND, New York, N. Y.—*Grinding Mill*.—December 10, 1867.—The material is fed into the cylinder through one of the tubular journals, and is subjected to the action of metallic balls running loosely in the rotating cylinder. A blast enters through the inwardly-flaring aperture of the journal at the feed end and carries the powdered particles through the other journal to the receiving chamber.

*Claim.*—The tubular inlet journal *b*, having its interior contracted around the feed pipe at one point, and thence flaring toward the cylinder and the blast pipe, substantially as and for the purpose specified.

**72,003.**—JOSEPH J. DUCHESNE, Lacon, Ill.—*Pivot Gearing*.—December 10, 1867.—The pivot gearing is applied to threshing or other machines, by means of which the power is shifted to any direction from the machine, or the location of the machine may be changed to any direction from the power.

*Claim.*—The circular bed plate A, in combination with the pinion plate B and coupling plate C, secured by the set screw S, the whole arranged and operating substantially as and for the purpose set forth.

**72,004.**—WM. F. DUFFNER, Petersburg, Ind.—*Cultivator*.—December 10, 1867.—The shaft is adjusted by varying the elevation of the wheel; its hinged supporters are actuated by the hand lever in the rear.

*Claim.*—The cultivator, composed of the elements A B B' C D E F H I J N and the device for regulating the depth of the shovels, composed of the elements G K L M P, all constructed and arranged as set forth.

**72,005.**—JOHN EARNSHAW, East Greenwich, R. I.—*Woven Fabric*.—December 10, 1867.—Improvement on his patent, April 9, 1867. The filling is passed through from one side and back at each beat, being caught and doubled around an independent selvage, so as to hold the filling upon the opposite side from which it is entered.

*Claim.*—The fabric herein described, as a new article of manufacture.

**72,006.**—EDWARD A. FIELD, Sidney, Me.—*Horse Rake*.—December 10, 1867.—The arms and their teeth raise simultaneously by the action of the tilting lever, and have an individual motion as far as is allowed by the rope which runs beneath and is attached to the outside arms of the series. The rope, while allowing the teeth to conform to inequalities of the ground, prevents their being thrown up too high.

*Claim.*—First, the application of each tooth E to its arm D by means of a round tenon arranged at an obtuse angle with the axis of the tooth and going into the arm, the same being substantially as and for the purpose described.

Second, the combination as well as the arrangement of the adjustable brace *d* and the staple or clasp wire *f* with the arm and the tooth, when applied by means substantially as specified, viz: a cylindrical tenon arranged at an obtuse angle with the axis of the tooth, and going into a corresponding hole made in the arm.

Third, the combination of the clamping screw *h* with the arm, and the tooth applied to such arm by a tenon arranged at an obtuse angle with the axis of the tooth, as specified.

Fourth, the arrangement of the rope, or its equivalent, with the several arms and their teeth and the braces thereof, the said rope being to operate as and for the purpose specified.

**72,007.**—C. D. FLESCHÉ, New York, N. Y.—*Punch for Forming Clasps*.—December 10, 1867.—The cutters on each side of the forming bar cut the metal, while the former bends it into its required shape.

*Claim.*—The sliding punch B, in combination with the plates A A', cutters *b b*, and spring *e*, substantially as and for the purpose herein shown and described.

**72,008.**—JOHN FLINN, Philadelphia, Pa., assignor to ARCHER STEEL, same place.—*Self-fastening Spring for Webbing*.—December 10, 1867.—One end of the wire is bent into the form of a spring clamp for slipping over the edge of the webbing.

*Claim.*—A spiral spring, for webbing, having the wire at one end of the spiral coils A A, bent in the manner described and shown by B C D E, for the purpose specified.

**72,009.**—ALDEN T. FOSTER, Albany, N. Y.—*Carving Knife and Fork Holder*.—December 10, 1867.—The tray has recesses in the ends, in which rest the carving knife and fork.

*Claim.*—As an article of manufacture the dish or stand A, constructed substantially as described, with notches *a a* and *c c*, as and for the purpose set forth.

**72,010.**—SAMUEL W. FOWLER, Brooklyn, N. Y.—*Lamp Chimney*.—December 10, 1867.—By the united action of its differently inclined deflectors the light is diffused.

*Claim.*—The construction of the glass chimney, with its concave and convex deflectors J and E on each side, and collar B beneath, with its projections C C, as herein described and for the purposes set forth.

**72,011.**—WILLIAM FREEBORN, Tivoli, N. Y.—*Cartridge Box*.—December 10, 1867.—The front of the box is formed in sections, each containing a row of cartridge cases. The sections are let down one at a time for emptying.

*Claim.*—The square box A, made of leather or any suitable material, when constructed with a series of round, fluted, or ruffled holders B, (on the inside,) made of any firm or flexible material, a series of holders B being attached to each flap C in front, and the flaps buttoning to the sides of the box A, as herein described and for the purpose set forth.

**72,012.**—SAMUEL GALBRAITH, New Orleans, La.—*Horse Hitch*.—December 10, 1867.—The pivoted jaws have an attachment ring secured to the rotating tube that works on the connecting rod of the jaws.

*Claim.*—The device above described, consisting of the rings A and B and the pivoted curved jaws C C, meeting at one extremity at *e' c'*, and connected at the other by means of the rods *r r* and spring *s* working in the tube *t*, substantially as and for the purpose specified.

**72,013.**—JOHN GARDNER, New Haven, Conn.—*Capping Screws*.—December 10, 1867.—A depression is made in the cap previous to placing it on the screw head for attachment thereto; the depression enters the nick in the screw head.

*Claim.*—First, in the method of capping screws, cutting away or depressing the cap at the point where it meets the nick in the screw head, substantially as described, so that such cut-away or depressed portion, while connected with and forming part of the cap, shall lie within or "line" the nick in the screw head, as set forth.

Second, a capped screw in which the slot or depression in the cap corresponding to the nick in the screw head is formed, substantially in the manner and for the purposes herein shown and described.

**72,014.**—J. P. GATES, Lincoln, Ill.—*Tight and Loose Pulley*.—December 10, 1867.—When the pulley with its shuttle key and cams is placed in position on the shaft of the machine it is coupled by a belt to the rotating band pulley. The shaft of the loose pulley receives directly the motion of the driving pulley.

*Claim.*—The construction of the pulley *e* in two sections, with the arrangement and combination of the ram spring F, the rebound guard G, the stop flange I, the case dog J, and spring K, the case-dog ram L, the shuttle key P, and studs Z and arm *b* with cam *a*, when constructed, arranged, and operated as herein described and for the purposes set forth.

**72,015.**—SAMUEL GISSINGER, Allegheny City, Pa.—*Brick Machine*.—December 10, 1867.—As the molds are pushed along, their ends are in contact and prevent clay from falling between them to clog.



the machinery. The molds are passed to and from the plunger by automatic action.

*Claim.*—First, the device for moving the mold on to the roller way G, consisting of the arm *l*, held by a spring *m'*, lever *m*, pin *n* on the gear wheel *o*, and block *j* moving in the slot *h*, substantially as described.

Second, the device for moving the molds under the hopper, consisting of the gear wheel *p*, operated by the gear wheel *o*, arm *k'*, and block *k* moving in the slot *i*, substantially as described.

Third, in combination with above the gear wheel *o*, shaft B, grinding knives C, stationary knives D, and fillers F in the hopper A, substantially as and for the purposes described.

Fourth, the roller way G, provided with openings and rollers *g* and *g'*, substantially as and for the purpose described.

**72,016.**—JAMES H. GLASS and ALBERT J. GLASS, McGregor, Iowa.—*Harvester Rake.*—December 10, 1867.—The rakes act as reels, their guide arms running on an elevated cam track therefor. The operative spur wheel of the rake gears with a pinion, which, at each rotation, opens the switch and allows the descent of a rake to sweep the gavel from the platform. The frequency of the latter movement is governed by the ratio the number of cogs on the wheel and pinion bear to each other.

*Claim.*—First, the combination of the wheel L with the rake wheel A and arms C, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the cam O and bent or crooked lever M with the shaft N of the gear wheel L and with the arm I, rigidly connected with the switch F, substantially as herein shown and described and for the purpose set forth.

**72,017.**—WM. B. GLEASON, Boston, Mass.—*Molding Plastic Material.*—December 10, 1867.—The plastic material is rolled out into thin sheets and one face coated with fine powder or a thin film of oil. It is then applied to the face of the mold, whose sections are brought together; the space inside the sheets is then filled with plaster or other material and it is subjected to pressure.

*Claim.*—The process, substantially as and for the purposes specified.

**72,018.**—WM. C. GOODWIN, Hamden, Conn.—*Hand Cultivator.*—December 10, 1867.—The shovel frame is adjusted to the frame of the roller by set screws, and is raised or lowered by the handle, by which it is pushed ahead of the operator.

*Claim.*—First, the combination of the frame C with the frame G, and the set screws *x* and *y*, and binding screw *f*, when they are constructed, arranged, and fitted for adjusting the blades, substantially as herein described and set forth.

Second, the combination of the blade with the foot and shank, when the foot is made with a keel, like *v*, to guide the blade and strengthen the shank, substantially as herein described and set forth.

Third, the combination of the handle D with the frame G, when the handle is made adjustable by means of the tongue *h* and set screw *j*, and the whole is constructed, combined, and fitted for use, substantially as herein described and set forth.

**72,019.**—PETER R. GOTTSTEIN, Houghton, Mich.—*Apparatus for Making Dipped Candles.*—December 10, 1867.—The wicks are suspended on fixed bars. The tallow is contained in a cistern hung to a truck by belts which pass over rollers, and are attached to a crank roller with a counterbalance belt secured to it. The truck runs on a track beneath the wicks, and the cistern is raised by turning the crank roller so as to "dip" the wicks.

*Claim.*—First, the combination and arrangement, substantially as described, of the weighted cistern B, car A, and straps C, for the purpose set forth.

Second, the combination of the cistern B, car A, and track I, substantially as and for the purpose described.

Third, the combination and arrangement of the slab or board J with the weighted cistern B, substantially as and for the purpose described.

Fourth, the new process of producing dipped can-

dles by raising the molten tallow or other liquid to the wicks, substantially as described.

**72,020.**—JOSEPH GOULD, Grinnell, Iowa.—*Corn Sheller.*—December 10, 1867.—The corn from the hopper passes through the throat, between the inclined board and the rotating, toothed cylinder. The board is supported by a spring.

*Claim.*—The roller C having its teeth placed upon its face in the manner herein described, and placed within the box between the stationary board *b* and adjustable board F, by means of its curved springs and oblong slot, when used in combination with metallic inclined plane E and hopper B, with false bottom, as herein set forth.

**72,021.**—LOUIS GOULDING, Medfield, Mass., assignor to himself and JAMES E. CARPENTER, Foxborough, Mass.—*Knife Cleaner.*—December 10, 1867.—The tablet has an oscillating lever whose pad is brought in contact with the abradant and with the knife blade alternately.

*Claim.*—First, the combination in an implement for scouring knives of the bar B with its adjustable pad *g*, arranged for operation as and for the purposes herein shown and described.

Second, in combination with the board or tablet A the bar B provided with the scouring pad *g* and pivoted to such board and operating with its upper surface or upon an inclined bed formed thereon, essentially as herein set forth and explained.

Third, the combination with the bar B and its pad of the knife bed and the inclosure for holding and receiving the scouring material, arranged relatively to each other and to the bar B, as herein shown and set forth.

**72,022.**—DAVID M. GRAHAM, Evansville, Ind.—*Portable Fence Post.*—December 10, 1867; antedated November 29, 1867.—The fence posts are supported by hinged braces above, and a forked double brace below that engages in the sill to which the post is attached. The bars engage in slotted apertures in the posts to which they are keyed.

*Claim.*—First, the construction of double portable fence posts, attached by metallic bevel clasps, with flanges, slots, and tongues, and secured by keys, substantially in the manner and for the purposes as herein described and shown.

Second, the adjustable anchors or braces attached by metallic eyes and key, and the combination of the feet of the posts and base, substantially in the manner and for the purposes as herein described and shown.

**72,023.**—A. S. GREENE, Washington, D. C., assignor to JOHN F. OLMSTEAD, same place.—*Steam Gauge.*—December 10, 1867.—The two columns of mercury communicate with each other at their lower extremities by two flexible diaphragms of different areas. The motion from the smaller one is transmitted to the larger by a solid, double-headed lifter, the smaller diaphragm forming the top of a reservoir for the mercury in the primary column. The larger column connects at the bottom of a wide and shallow cistern for the mercury in the secondary column, the motion of the mercury in which indicates the pressure on the scale.

*Claim.*—First, the construction of a steam gauge, with two columns of mercury, A and F, communicating with each other at their lower extremities by means of the flexible diaphragms *c* and *d*, and the solid, double-headed lifter C, substantially in the manner and for the purpose as herein set forth.

Second, the solid, double-headed lifter C in combination with the flexible diaphragms *c* and *d* and the primary and secondary reservoirs, substantially in the manner and for the purpose as herein set forth.

Third, the transmission of the pressure of steam from one column to the other, by means of a solid, double-headed lifter, in combination with the flexible diaphragms *c* and *d*, substantially in the manner and for the purpose as herein set forth.

Fourth, providing the primary reservoir I with the screw plunger H, substantially in the manner and for the purpose as herein set forth.

**72,024.**—THOMAS S. GREENMAN, Mystie Bridge, Conn., assignor to GEORGE W. PACKER, Jr., same



place.—*Wall Building and Stump Extracting Machine*.—December 10, 1867.—Improvement on the patent of George W. Paeker, August 29, 1865.—Explained by the claims and illustration.

*Claim*.—First, the within described novel construction of a truss for a wall building machine, the same consisting in the pyramidal framing A B B, the horizontal timbers D D, uprights E F, holding down bolts G J, and inclined braces I H, combined and arranged substantially as and for the purpose herein set forth.

Second, in such truss, firmly securing the timbers D D to the pyramidal framing A B B by enlarging and bolting, or equivalent fastenings, at the points of contact, in addition to the truss work before described, substantially as and for the purpose herein specified.

Third, the diagonal arrangement of the holding down bolts G at the front of the truss, the same being arranged relatively to the timbers D, triangular frame A B B, and their several connections, substantially in the manner and for the purpose herein set forth.

**72,025.**—AMOS W. GRIFFITH, Roxbury, Mass.—*Window Screen*.—December 10, 1867.—The screen is wound round a spring roller that has its bearings in the foot of the casing. The screen is also attached to the lower bar of the sash, so that, as the latter raises, the screen follows and excludes insects.

*Claim*.—The roller cover E, in combination with the removable screen D, spring roller C, sash A, and window frame, as herein described for the purpose specified.

**72,026.**—WM. C. GRIMES, Ladiesburg, Md.—*Fertilizer*.—December 10, 1867.—Crushed bone, 8 bushels; sulphate of soda, 80 pounds; sulphuric acid, 180 pounds. After the ingredients are dissolved add, urine, 40 gallons; rich earth, 10 bushels.

*Claim*.—Forming a fertilizer in the manner herein described, of the ingredients and proportions substantially as specified.

**72,027.**—JOHN GROSS and JOHN C. TUNISON, Decatur, Ill.—*Cultivator*.—December 10, 1867.—Explained by the claims and illustration.

*Claim*.—First, the arrangement and combined action of the two frames, so that when any permanent obstruction comes against any of the plows, the frames will disconnect, and the back frame ride or move up on the front one, and thus avoid breakage, substantially as described.

Second, a frictional spring hook upon the tongue or tongue frame, for catching and holding upon a cross bar of the "rear frame," so that the two frames will not disconnect until the pressure upon the plow or plows exceeds that for which the hook has been adjusted, substantially as described.

**72,028.**—JOHN A. HAASE, Philadelphia, Pa.—*Hose Shield*.—December 10, 1867.—To protect hose against injury by street cars. The shield has a foot way for the horses and is made in sections for convenience of removal.

*Claim*.—The combination of the floor or foot way C with the side pieces b b of a sectional hose bridge, constructed substantially as described.

**72,029.**—JOHN W. HADFIELD, Newtown, N. Y.—*Sky Rocket*.—December 10, 1867.—Improvement on his patent November 28, 1865.—The adjustable ring with its accompanying wings act as guides on the rocket in the place of the usual stick.

*Claim*.—The application of detachable wings to a sky rocket, through the medium of a collar or band, arranged so that the wings may be detached from the collar or band, or the latter detached from the rocket, substantially as shown and described.

**72,030.**—JOHN W. HADFIELD, East Williamsburg, N. Y.—*Sky Rocket*.—December 10, 1867.—The three sticks are attached to the rocket as guides, in place of a single stick.

*Claim*.—The attachment to a sky rocket of three or more sticks, at equal distances apart, substantially in the manner and for the purpose set forth.

**72,031.**—CHARLES F. HALL, Brooklyn, N. Y.—*Machine for Refitting Conical Valves*.—December 10, 1867.—The shank has a longitudinally-sliding spring center, and the flaring arms have adjustable cutters on their inner sides.

*Claim*.—First, a milling tool, with one or more cutters attached to one or more arms or longitudinal sections of a cone, (whether straight or oblique,) whereby conical valves of different sizes may be refitted, constructed substantially as shown and described.

Second, in combination therewith, the yielding center C, substantially as described.

**72,032.**—GEORGE C. HALL, Brooklyn, N. Y.—*Collecting Oxide of Zinc*.—December 10, 1867.—The metallic fumes and gases are forced into a close building that has apertures over which screens are placed, constructed so as to admit the passage of the air and gases but to arrest the oxide by a cushion of wool.

*Claim*.—First, a building, structure, or compartment A, provided with openings a, covered by screens B, substantially as and for the purpose set forth.

Second, a screen for separating the oxide of zinc from the fumes and gases of burning zinc ore, composed of ground cork, hair, wool, sponge, or other suitable or similar material, confined within a suitable chamber, substantially as set forth.

**72,033.**—H. F. HART, New York, N. Y.—*Register for Odometers*.—December 10, 1867.—The wheels are inclined and lap upon each other so as to expose the lapping portions at the holes in their supporting lid. The cogs are numbered and the lid perforated to exhibit the numbers.

*Claim*.—The arrangement, in an inclined position, of the counting wheels 1 2 3 4 5 and 6, upon shafts of equal lengths, in combination with the notched and perforated lid B, as herein shown and described.

**72,034.**—WM. H. HART, Jr., Philadelphia, Pa.—*Neck Tie*.—December 10, 1867.—The free ends of the loop that attach the bow are secured to buttons on the collar.

*Claim*.—A bow or tie A, having an elastic loop or cord B arranged horizontally at its rear, with both of its ends free, for the purpose substantially as described.

**72,035.**—HORACE R. HAWKINS, Akron, Ohio.—*Elliptic Carriage Spring*.—December 10, 1867.—Explained by the claim and illustration.

*Claim*.—An elliptical carriage spring, composed of a single piece F, or two separate pieces E E of steel, united by means of blocks and bolts, substantially as herein shown and specified.

**72,036.**—E. K. HAYNES, Hanover, N. H.—*Instrument for Hatch-lining Drawings*.—December 10, 1867.—The straight edge rests on a series of ribbed rollers upon a single longitudinal shaft, and the shaft is intermittently turned by a ratchet wheel which is actuated by pawls on a spring lever.

*Claim*.—The straight edge or scale, having a mechanism for effecting an intermittent movement of the same, substantially as described.

Also, in combination therewith, the tongue q, for angular lining, substantially as described.

Also, in combination with the feed mechanism, a mechanism for presenting the straight edge in positions radiating from a center, substantially as set forth.

**72,037.**—D. HAZZARD, Milton, Del.—*Platform Scale*.—December 10, 1867.—The spiral spring is attached to a spindle which supports a platform. To the bottom end is attached an indicating finger whose point travels on the index as the platform descends.

*Claim*.—The hollow stand A, the spindle C, the springs D, the elastic rod G, and the graduated plate H, in combination, and arranged substantially as shown and described for the purposes set forth.

**72,038.**—ADAM HELMSTAEDTER, Newark, N. J.—*Piano Lock*.—December 10, 1867.—One bolt has a pin which traverses in a slot in the other as they are projected or retracted by the key.

*Claim*.—The pin a, secure in the oscillating hook C, and catching in a slot in the hook C', substantially as and for the purpose described.



**72,039.**—JOHN B. HIMBERG, Frederick City, Md.—*Tuyere*.—December 10, 1867.—The annular cover is bolted upon a cylindrical box, into which the blast of air is conducted through an induction pipe. The blast passes through the space formed between the afore-said ring and the dish-shaped plate.

*Claim.*—A tuyere, consisting of the box A, annular cover C with a convex under side, and of the removable ring E, from which the concave plate F is suspended, all made and operating substantially as herein shown and described.

**72,040.**—JAMES HINCKS and JOSEPH HINCKS, Birmingham, England.—*Petroleum Lamp*.—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, constructing the burners of the said lamps substantially in the manner hereinbefore described and illustrated in Figs. 1, 2, 3, 4, 5, and 6, of the accompanying drawings, that is to say, the combination in the same burner of two or more flat or curved wick cases or holders, in which two or more flat wicks are placed, so as to produce thereby two or more flat flames or elliptical or nearly circular flames.

Second, constructing and arranging the shade holders or galleries of the said lamps, for the purpose of admitting air to the flames, substantially in the manner hereinbefore described and illustrated in Figs. 7, 11, 12, 13, and 14, of the accompanying drawings.

Third, supporting the shade holders or galleries in a vase or cup on the top of the pillar of the lamp, and supplying air to the lamp through the said pillar or vase, or supporting them in a cup or vase without a pillar, the air in this case being supplied through the vase, substantially in the manner hereinbefore described, and illustrated in Fig. 7 of the accompanying drawings.

Fourth, the improvement described and illustrated in Figs. 11, 12, 13, and 14, of the accompanying drawings, for isolating the shade from the shade holder or gallery.

Fifth, the arrangement or combination of the parts of punkah-protectors or wind-protectors, substantially in the manner hereinbefore described and illustrated in Figs. 7, 8, 9, 10, 11, 15, and 16, of the accompanying drawings.

**72,041.**—JOHN M. HIRLINGER, Red Rock, Pa.—*Device for Lashing and Binding*.—December 10, 1867.—The cord has at one end a hinged lever, and at the other a link, which is passed over the end of the lever and engages one of a series of hooks on its under side. A ring secured to the cord is passed over the lever end to hold it.

*Claim.*—The cord A, provided with the links B and C, hooked lever D, and slide E, with its ring a, arranged and used as and for the purpose set forth.

**72,042.**—HORACE HOLT, New York, N. Y.—*Tool for Opening Fruit Cans*.—December 10, 1867.—While the arms of the calipers embrace the can the knife on the pivoted lever cuts round the lid.

*Claim.*—First, the tool for opening sheet-metal cans, composed of a hand lever B, carrying a tooth c, and connected to tongs A or other equivalent means, capable of clamping said tooth-carrying lever to the can, as set forth.

Second, placing the tooth c in an oblique direction, when the same is used in combination with the hand lever B and clamping device A, substantially as and for the purpose described.

Third, the raised bearing d, in combination with the lever B and clamping device A, substantially as and for the purpose set forth.

**72,043.**—ZADOCK HOWE, Lowell, Mich.—*Mop Wringer*.—December 10, 1867.—The operating roller and its corresponding roller wring the mop when the treadle is pressed down and the mop drawn through.

*Claim.*—The treadle G and spring bail F, in combination with the rollers B and C, the same being used as and for the purpose specified.

**72,044.**—DAVID K. HOXSIE, Providence, R. I.—*Machine for Making Eyelets*.—December 10, 1867.—The blank is cut by a punch sleeved upon the forming punch, and the perforation made by a punch working upward from beneath. The spring snapper removes the eyelet from the former.

*Claim.*—The combination of the eyelet-forming

punch J, the eyelet-forming die e, and the punch G, arranged and operating substantially as herein described for the purpose set forth.

Also, in combination with the eyelet-forming punch J and cutting punch H, as described, the spring or snapper g, arranged and operating substantially as described for the purpose specified.

**72,045.**—GEORGE W. HUNT, Hopkinton, Mass.—*Railway Sleeping Car*.—December 10, 1867.—Some of the seat backs are so hung that they can be turned down horizontally in line with the seats. The adjacent seats are partially turned down into line, and a portion remains elevated to form the end of the berth. Each set of the leaves from which the upper berths are formed folds together into a pocket in the side of the car when out of use, and swings out to form a berth when required.

*Claim.*—The construction and arrangement of the backs of car seats, by which the whole of some of the backs and parts of others are formed into berths in connection with adjacent seats, substantially as described.

Also, the combination of the leaves n p and q, hinged as shown, and to fold together for a day car, or to be extended and made into a berth for a night car, substantially as described.

**72,046.**—GEORGE M. JACKSON, North Hecctor, N. Y.—*Harvester*.—December 10, 1867.—The cutter bar is hinged axially with the center of revolution of its operative crank, so as to allow an inclination in the said bar. The bar is connected by a chain to a lever, by which it is raised or lowered, and the lever has a catch engaging a ratchet to sustain it in required position.

*Claim.*—The arrangement and combination of the toothed wheels S and T, crank U, box W of the hinged frame V, adjustable finger bar J, hoisting rope or chain Y, and lever Z, when constructed and operated as herein described and for the purposes set forth.

**72,047.**—S. M. JOHNSON, Lockport, N. Y.—*Reversible Sad Iron*.—December 10, 1867.—The oil is supplied from the reservoir in the handle to the burner in the chamber. The supply is regulated by a stop cock. The operative surfaces are reversible.

*Claim.*—First, the combination with a reversible sad iron A of the hollow handle C, forming a reservoir i, the pipe D, leg I, and set screw H, or equivalent, arranged and operating substantially in the manner and for the purpose set forth.

Second, in combination therewith the pipe E, provided with burner e, cone G and stop cock F, arranged and operating substantially as specified.

**72,048.**—WM. KEATS and JOHN KEATS, Street, England.—*Manufacture of Boots and Shoes*.—December 10, 1867; antedated April 14, 1863.—A rectangular strip is cut from one corner of the perimeter of the sole, and the reversed upper is sewed to the cut side of the lip remaining. When the shoe is turned the lip is folded inward upon the body of the sole.

*Claim.*—The construction of coverings for the feet, substantially as hereinbefore set forth; that is to say, with the sole cut at the edge, and sewed to the edge of the upper while turned outward, substantially as described.

**72,049.**—M. A. KING, New York, N. Y.—*Muff*.—December 10, 1867.—The flexible steel frame keeps the muff in position, and is hinged to form the jaws of a reticule.

*Claim.*—A muff, provided with the skeleton spring frame B, made in sections, for the purpose of sustaining its cylindrical form and adapting it for use as a reticule or pocket, substantially as shown and described.

**72,050.**—ALFRED KNAPP, North Fairfield, Ohio.—*Horse Hay Fork*.—December 10, 1867.—The chisel point, when dropped, is inserted into the hay, and is afterward projected by the rods and cords attached.

*Claim.*—The hinged chisel c, in combination with the main piece A, rod B, brace piece G, and holder



D, constructed substantially as described and for the purposes set forth.

**72,051.**—JOSHUA LAWRENCE, Palmyra, N. Y.—*Fifth Wheel for Carriages.*—December 10, 1867.—The anti-friction rollers, in connection with the fifth wheel, facilitate the turning of the carriage.

*Claim.*—The combination of the housings *a a*, inclosing the rollers *b b*, with the bows *G H*, the whole constructed and arranged as described and operating in the manner and for the purpose set forth.

**72,052.**—J. Q. LEFFINGWELL, Nevada, Iowa.—*Washing Machine.*—December 10, 1867.—The vibrating, semi-cylindrical, oscillating box has a series of longitudinal ribs. The lever, with its attached segmental rack, works the machine.

*Claim.*—The combination of the semi-cylindrical box *D*, segment *W*, pinion *P*, parts *m m'*, lever *H*, and ribs *r*, as herein described for the purpose specified.

**72,053.**—FRANCIS C. LEVALLEY, Warnerville, N. Y.—*Door Fastener.*—December 10, 1867.—The spring latch engages on the catch and is locked by the sliding wedge bolt.

*Claim.*—The sliding wedge bolt *F*, in combination with the sliding spring catch *K* and cases *E J*, as herein described for the purpose specified.

**72,054.**—WM. A. LIGHTHALL, New York, N. Y.—*Condensing Engine.*—December 10, 1867.—The ordinary jet condenser and air pump are so arranged in relation with a surface condenser that either can be used and the change made from one to the other without stopping the engine.

*Claim.*—The arrangement of the ordinary jet condenser *B*, air pump *D*, and hot well *E* with the surface condenser *F* and the valves *H K* and *L*, as shown and described, so that the change from the use of the jet condenser to that of the surface condenser can be made at will, and *vice versa*.

**72,055.**—GEO. S. LONG, Bridgeport, Conn.—*Machine for Forming and Tempering Elliptic Springs.*—December 10, 1867.—The steel is worked on a vibrating former that oscillates under a hollow perforated roller which distributes water on the heated steel.

*Claim.*—First, a steel-spring former, substantially as shown and described, and for the purposes set forth.

Second, the vibrating rod *B* and shoe *f'* and any former *F*, in combination with the slotted wheel *W* and roller *W'*, substantially as shown and described and for the purpose set forth.

Third, the hollow shaft *s'* and roller *W'*, in combination with the binder or presser *D*, substantially as shown and described and for the purposes set forth.

Fourth, the sliding crank-pin *p*, in combination with the slotted wheel *W* and slotted vibrating rod *B*, substantially as shown and described and for the purposes set forth.

**72,056.**—RICHARD LONG, Chillicothe, Ohio.—*Furnace for Hot-air Blast.*—December 10, 1867.—The caloric current from the chimney is conducted through the chamber containing the blast pipe which is made of fire clay, and oblong in section, the longer diameter being vertical.

*Claim.*—First, constructing the air pipe of a furnace blast heater of fire clay, substantially as described.

Second, constructing the air pipe of an oval or other equivalent form, and uniting the sections of which it is composed by socket joints, with clamps and keys, substantially as shown and described.

Third, forming the supporting walls *B* of fire brick, with iron plates between the courses, and substantially as shown and described.

Fourth, placing an open or solid plate beneath the air pipe, substantially as and for the purposes herein described.

**72,057.**—EUGENE F. LYMAN, Indianapolis, Ind.—*Clothes Rack.*—December 10, 1867.—The case contains racks to hold the arms, which when in use are secured by one end in the semicircular racks and held in a radial position.

*Claim.*—The combination and arrangement of the

semicircular racks *G* and *H*, the arms *f* and *c*, the sockets and staples for the arms, and the box *A B C D*, all operating substantially as and for the purpose specified.

**72,058.**—F. J. MACFARLAN, San Francisco, Cal.—*Center Board for Vessels.*—December 10, 1867.—The pivoted center boards are let down in their wells fore and aft, to diminish the tendency of the vessel to make lee-way. They are withdrawn by cords into the recesses of their wells when not required.

*Claim.*—The location of the center boards, or other equivalent devices for the same specific purpose, in the extreme bow and stern of vessels; that is to say, the placing of the said boards forward of the foremast or aft of the mainmast in two-masted vessels, and forward of the foremast and aft of the mizzen-mast in three-masted vessels, substantially as shown and described, and for the objects and purposes specified.

**72,059.**—R. W. MACGOWAN, New York, N. Y.—*Register Points for Printing Presses.*—December 10, 1867.—The pivoted pointers are snapped by a spring into the sheet and hold it in position till the nippers of the cylinder draw the sheet, when the point automatically retires.

*Claim.*—First, the pivoted or jointed pointer *B*, having a spring or equivalent weight attached and arranged to operate in the manner substantially as and for the purpose set forth.

Second, the tube *A*, provided with the slotted cap-plate *b* and the nut *C*, when used in connection with the pointer, for the purpose specified.

**72,060.**—ORVILLE MANLY, Garrettsville, Ohio.—*Roofing.*—December 10, 1867.—The tiles are connected by water-tight cement to make a smooth surface.

*Claim.*—First, a roof composed of tiles *a* and *b*, having spaces *S* between them for a water-tight cement, substantially as shown and described and for the purposes set forth.

Second, the saturated tiles *a* and the saturated tiles *b*, substantially as shown and described, and for the purposes set forth.

Third, the lower or outer row of tiles *b*, when laid together, forming an eaves-trough, substantially as shown and described and for the purpose set forth.

**72,061.**—EMILE MARTIN and PIERRE E. MARTIN, Paris, France.—*Refining Cast-iron and Converting it into Steel.*—December 10, 1867.—Pig iron is heated to a high temperature in a reverberatory furnace; ore is thrown in, preferably roasted and cemented in small pieces; or pieces of puddled steel or old iron may be thrown in after having been heated to a bright red. The temperature is maintained at 1600° to 2000° Centigrade. A quantity of manganiferous iron is last added.

*Claim.*—The method of and means for refining and converting cast-iron into cast-steel and other metals, substantially as herein shown and described.

**72,062.**—J. W. MAUZY, Richmond, Ind., and J. HUGHES, Cambridge, Ind., assignors to JAMES HUGHES.—*Straw Cutter.*—December 10, 1867.—The spiral knife cuts in combination with an adjustable bar. The feed rollers are rotated by a pull and push pawl actuated by an eccentric rod.

*Claim.*—First, the combination of the side pieces *D D*, constructed as described, containing the bearings for the cutting mechanism, the shearing bar *B*, with square faces, and the spirally bladed knife *C*, arranged substantially as described.

Second, the combination of the perforated rollers *E*, ratchet wheels *F*, pawls *H<sup>1</sup> I* and *R*, adjustable oscillating arm *G<sup>1</sup>*, eccentric rod *L* and eccentric *M*, respectively, constructed and arranged substantially as set forth.

Third, the arrangement of the cap *G*, rollers *E E*, covers *Q*, side pieces *D D*, knife *C*, and the driving and feed mechanism, constructed and combined substantially as set forth.

Fourth, the feed rollers *E*, when constructed from sheet metal, and punched from the inside, forming projections as shown, for feeding the straw to the knife.

Fifth, the metallic side pieces *D D*, constructed as described, in combination with the bar *B*, knife *C*, feed-rollers *E E*, arranged substantially as set forth.



Sixth, the combination of the eccentric M on the knife shaft, eccentric rod L and oscillating arm G<sup>1</sup>, when the latter are so arranged as to regulate the cut by adjusting the point of attachment, substantially in the manner set forth.

**72,063.**—SAMUEL McCULLOCH, Yellow Springs, Ohio.—*Convertible Shot Gun and Rifle*.—December 10, 1867.—The rifle barrel is secured in the shot barrel by a screw which enters a screw threaded cavity in the breech. The said cavity is stopped by an annular plug when the barrel is not introduced.

*Claim.*—The removable barrel C, constructed with external collars c, and secured within a shot-gun barrel A by a screw D, substantially as and for the purposes set forth.

Also, the plug F, for the purposes set forth.

**72,064.**—D. J. McDONALD, Gold Hill, Nevada.—*Derrick*.—December 10, 1867.—The derrick is mounted on wheels, and the frame attached to a circular plate, which rotates upon grooved anti-friction rollers. The standard has a central sliding rail, by which it is extensible. Supports are hinged to the frame so as to be folded up horizontally, or placed in vertical position to steady the frame. In the latter case they are connected with the earth by pointed screw bolts.

*Claim.*—First, the derrick standard L and frame K, fitted in the derrick frame J, and arranged, as shown, for the ready adjustment of the standard L.

Second, the fitting of the derrick frame J on the wagon frame, as shown, to wit, by means of the circular plate D, frame F, and circular plate G, with the wheel E and pinion Y, to admit of the ready turning of the derrick, as set forth.

Third, the supports D', provided with screws a, and attached to the frame B, as shown, in connection with the levels b in platform C, for the purpose of leveling the device, substantially as described.

Fourth, the annular platform C, applied to the wagon A, when used in combination with a revolving derrick frame J, substantially as and for the purpose specified.

**72,065.**—JOHN A. MCGEE, New York, N. Y., assignor to THEODORE MACE, same place.—*Auger*.—December 10, 1867.—The cutting edge extends outwardly from the base of the tapering screw, and has a curved backward, downward outline till it intersects the periphery of the tool.

*Claim.*—The boring instrument formed with a cutting edge extending outwardly from the base of the tapering screw, and curved backwards and downwards until it intersects the periphery of the tool, as and for the purposes set forth.

**72,066.**—ISRAEL J. MERRITT, New York, N. Y.—*Dry Dock*.—December 10, 1867.—The "dock" has wells at two or more places giving passage to the lifting chains, which are secured to levers whose free ends are raised by jack screws.

*Claim.*—First, the arrangement and combination, with a floating section or dock A, of one or more wells, through which a lifting chain or chains are passed down to the vessel or object to be raised, substantially as shown and described.

Second, the arrangement and combination of the lever J with the floating dock or section A and chain or chains C, substantially as described.

Third, the shape of the well B, the same being made flaring from its top downwards, so as to allow the chains to go or be conducted from the mouth of the well directly towards the vessel or object to be raised, substantially as shown.

**72,067.**—JOHN MERRITT, New York, N. Y.—*Knife and Fork Cleaner*.—December 10, 1867; ante dated December 4, 1867.—The circular disks have leather rubber facings, and are backed by springs and adjusted by set screws to press against the knife, which is inserted between the disks while they are rotating.

*Claim.*—First, the combination of the circular disks D, leather or equivalent rubbers K, shaft A, holding plates E E', adjusting nut G, and adjusting screw I, with each other and with the box B, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the friction wheel O,

brush N, and shaft L with each other and with the disk D and box B, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the lever M, spring P, and hook R with the brush shaft L and box B, substantially as herein shown and described and for the purpose set forth.

**72,068.**—A. MILLOCHAN, New York, N. Y., assignor to R. A. PERLEE, Jersey City, N. J.—*Manufacture of Lampblack*.—December 10, 1867.—Water is circulated in contact with a sheet against the lower side of which the lamp flame impinges.

*Claim.*—The method herein specified of manufacturing lampblack by condensing the carbonaceous vapors upon a surface, directly over the flame, that is constantly kept sufficiently cool by artificial means.

**72,069.**—JAMES MITCHELL, Laporte, Ind.—*Car Brake*.—December 10, 1867.—The mechanism is intended to operate automatically after being wound up by means of the lever which actuates the reciprocating rod connected to another lever having two spring pawls. The pawls act on a ratchet wheel attached to another wheel, whose wrist pin is connected to a compound elliptical spring to store the power for applying the brakes. This disk is held by a detent lever. On the retraction of the detent and release of the wheel, its shaft being clutched to the brake shaft, the brakes are applied.

*Claim.*—First, the combination of the lever A, rod B, lever C, pawls D and D<sup>1</sup>, spring D<sup>2</sup>, and ratchet wheel E, substantially as and for the purpose set forth.

Second, the combination of the shaft E<sup>3</sup>, collar R, arm R', collar S, and shaft I, substantially as set forth.

Third, the combination of the shaft I, spiral collar U, lever T, and arm R, for disengaging the brakes, substantially as set forth.

Fourth, the combination of the ratchet bar P with the inclined face P<sup>1</sup> and catch lever G, substantially as and for the purpose set forth.

Fifth, the combination of the ratchet bar P with its shoulder P<sup>2</sup> and the lever T, substantially as and for the purpose set forth.

**72,070.**—HANNAH MUNSON, Rockford, Ill., administratrix of the estate of WM. C. MUNSON, deceased.—*Automatic Table for Teaching*.—December 10, 1867.—The pivoted points are turned to indicate the question to which an answer is required.

*Claim.*—The combination of the frame A, with its pivoted pointers C C and hooks c c, and movable bars B B with pointers and charts D, as constructed, the whole being arranged and used substantially as and for the purposes specified.

**72,071.**—JOHN G. MURDOCK, Cincinnati, Ohio.—*Hydrant*.—December 10, 1867.—The plunger with the valve is removable, and enters a cylindrical cup with a flaring top, which acts as a guide in restoring the valve and follower after repairs. In turning on the water the discharge pipe, with the valve and follower, is raised by a cam which turns in an oblong ring of the pipe. When the pipe is again depressed, the valve is brought to its seat, and the water from the discharge pipe passes through holes in the bottom of the cylindrical cup.

*Claim.*—First, the hollow plunger E, having the interior valve I and sleeve packing F, which, respectively, close and encircle the supply and waste pipe B, as and for the purpose set forth.

Second, in combination with the supply and waste pipe B and valve I, the vertically-adjustable hollow plunger E, for the object stated.

Third, the adjustable shoulder or lock-nut J, in combination and arrangement with the elements B D I and E.

Fourth, the arrangement of internally-packed plunger E, which surrounds and packs a vertical supply pipe B, having one or more waste-ways D, and being inclosed within and guided by a cup C, substantially as described.

**72,072.**—R. B. MUSSON, Champaign, Ill.—*Cleaner for Lamp Chimneys*.—December 10, 1867.—The different parts of the rubber extend in opposite directions from the stem, so as that one part causes a pressure of another against the inside of the chimney.

*Claim.*—A cleaner for lamp chimneys, bottles, and



other articles of a similar character, consisting of strips of rubber, or other soft elastic substance, secured to a holder, and arranged in manner and for the purposes substantially as above set forth and described.

**72,073.**—ERASTUS NEWHALL, Lynn, Mass., assignor to himself and JOHN R. MOFFITT, Chelsea, Mass.—*Boot and Shoe Heel*.—December 10, 1867; antedated December 3, 1867.—The lower cylindrical portion of the heel has an upward cylindrical projection, with a circumferential recess to receive an annular projection of the upper part and allow of turning, to bring a fresh part to wear.

*Claim.*—A heel, made with a circular tread and a corresponding seat, when one or both of the two parts are made of elastic material, and are united substantially as described.

**72,074.**—J. B. OLDERSHAW, Baltimore, Md.—*Portable Hot-air Conductor*.—December 10, 1867.—A crescent-shaped case is secured to the side of the stove. The air circulates in the chamber, and is conducted by a pipe to another apartment.

*Claim.*—A portable hot-air receiver and conductor, constructed, arranged, and operating in connection with a stove, for the purpose of heating apartments above it, substantially as described.

**72,075.**—GARRET J. OLENDORF and ALBERT O. PARSHALL, Middlefield, N. Y.—*Vine Holder*.—December 10, 1867.—The spring frame has cords stretched upon it to take gentle hold of the vine and stake while tying.

*Claim.*—First, the frame A, constructed as described and set forth, for the purpose specified.

Second, the cord B, combined with and supported by frame A, as described and set forth, for the purpose specified.

**72,076.**—H. O. PEAPODY, Providence, R. I., assignor to THE PROVIDENCE TOOL COMPANY, same place.—*Breech-loading Fire-arm*.—December 10, 1867.—Improvement on his patent July 22, 1862; reissued March 13, 1866. The breech block has a projection entering the recess on the under side of the hammer to insure the proper position of the block and to prevent recoil.

*Claim.*—Combining the breech block A, hinged at its posterior extremity and operating as described with the hammer D by means of the protuberant inclined plane C, or its equivalent, substantially as described, for the purposes specified.

**72,077.**—STANHOPE PERKINS, Fairfield, England.—*Railway Crossing*.—December 10, 1867; patented in England April 4, 1867.—The V-portion of the crossing is formed of a single bent rail, whose sides, when the angle is sufficiently acute, are secured together by transverse bolts.

*Claim.*—Forming the points or V-parts of crossings without splice, by bending the rail, prepared as above described, back upon itself, and securing the abutting parts in the manner and for the purpose above set forth.

**72,078.**—R. N. PERLEE, Jersey City, N. J.—*Manufacture of Lampblack*.—December 10, 1867.—Atmospheric air is introduced into the flame of the lamp in regulated quantities to cause a jet black, but to avoid too great consumption of carbon.

*Claim.*—The method herein specified of manufacturing lampblack, by introducing atmospheric air to the flame by artificial means, for the purposes set forth.

**72,079.**—HENRY B. PITNER, Laporte, Ind.—*Axle Box*.—December 10, 1867.—The iron box has interior screw threads at each end for engagement of bearing rings of brass.

*Claim.*—First, an axle-box, substantially as shown and described, and for the purposes set forth.

Second, the sleeve or thimble A, in combination with the end pieces B, substantially as shown and described, and for the purposes set forth.

Third, the shoulder  $a^1$  and the shoulder  $a^2$ , in combination with the sleeves A and end pieces B, substantially as shown and described and for the purposes set forth.

**72,080.**—LEANDER POLLOCK, Matteawan, N. Y., assignor to himself and JOHN P. SCHENCK, Jr., same place.—*Railway Chair*.—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, a railroad chair, which is divided by an inclined line drawn through the base into two parts A and B, each part carrying one of the cheeks, and all made and operating substantially as herein shown and described.

Second, interposing an elastic plate  $g$  between the edge of the upper base  $d$ , and the stationary cheek  $a$ , substantially as and for the purpose herein shown and described.

**72,081.**—GEORGE RACE, Norwich, N. Y.—*Ventilating Hay-mows*.—December 10, 1867.—A series of inclined or horizontal perforated tubes are placed in the hay and communicate with a vertical tube of the same character having exit above the hay.

*Claim.*—Making vertical perforated pipes, having lateral branches extending out from the main pipe, for the purpose of ventilating hay-mows and stacks of hay or grain, substantially as herein set forth.

**72,082.**—LOUIS RANSOM, Lansingburg, N. Y.—*Pneumatic Car*.—December 10, 1867.—The compressed air cylinders are connected together and to the engine by flexible tubes made of alternate layers of rubber pipe and rubber and iron rings, the metallic rings of one course breaking joints with those in the other course. The air is exhausted into a muffler box lined with soft fibrous material.

*Claim.*—First, in combination with a pneumatic car a series of metal cylinders for containing compressed air, the said cylinders being connected by pipes, so as to form one common reservoir, substantially as described.

Second, the combination with a stove for warming the car, or other heating apparatus, a conducting pipe for the compressed air, so located with reference to the stove or other heating apparatus that the compressed air, in passing through it, will become heated, and have its expansive power increased thereby, substantially as described.

Third, the compound flexible pipe, constructed substantially as described.

Fourth, the muffler D, for the purpose of deadening the sound of the escaping air, as described.

**72,083.**—E. B. RICH, South Boston, Mass., assignor to himself and ANDRE CUSHING, same place.—*Machine for Sharpening Saws*.—December 10, 1867.—The saw, if straight, is clamped to a sliding frame, if circular, to an intermittingly rotating frame, and the grinding disk brought in contact with the saw by the reciprocation of its journal frame. The movements are automatic.

*Claim.*—The sliding holder B and adjustable rail C, in combination with the grinding wheel D, constructed and arranged to operate as herein described for the purpose specified.

**72,084.**—JOEL T. BUCKLEY, Ottawa, Ill., administrator of the estate of Stephen Rigler, deceased.—*Automatic Register*.—December 10, 1867.—The mercury acts on a piston which is attached to a rack block, engaging a rack lever, which actuates the register shaft by a pinion upon the latter.

*Claim.*—First, operating a register slide so as to regulate the temperature of apartments by means of a column of mercury within a tube, which is arranged within the register itself, and acts upon said slide through the means substantially as described.

Second, the combination of an index hand S with a register, arranged and operated by a column of mercury within a tube, which is arranged within the register itself, substantially as described.

Third, the combination with a circular turning register slide B of mercury pipe G, piston rod  $g^1$ , cross head  $g$ , toothed lever F, spur wheel  $d$ , and shaft  $b$ , arranged, constructed, and operating substantially as described.

**72,085.**—P. ATKINSON ROSS, Harveys, Pa.—*Shovel Plow, Cultivator, &c.*—December 10, 1867.—The fore ends of the handles are hinged to the beam, and they are adjustable laterally by a notched cross bar that passes through a horizontal transverse mor-



tise in the standard, and is held by a pin, which engages one of the notches.

*Claim.*—First, the combination of the notched rack E and removable pin F, with the pivoted or rocking cross bar C and slotted standard B, substantially as herein shown and described and for the purpose set forth.

Second, connecting the forward ends of the handles D to the beam A by means of the hook or eye bolts G and pivoted bar or plate H, when used in connection with the pivoted or rocking cross bar C and pin F, substantially as herein shown and described and for the purpose set forth.

**72,086.**—ROBERT RAMSEY, New Wilmington, Pa.—*Fence Post.*—December 10, 1867.—The post has dovetail side grooves for reception of the transverse keys by which it is held to the sill rails, which are slightly raised from the ground.

*Claim.*—The fence post P P' P'', having dovetail gains at its lower end, in combination with the parallel sills A A' and the keys e e e e, substantially in the manner and for the purpose set forth.

**72,087.**—JAMES H. ROWLEY, Vanceburg, Ky.—*Churn.*—December 10, 1867.—The upper end of the vertical dasher shaft has a friction pulley actuated by a horizontal pulley rotated by hand. The shaft of the latter pulley is driven toward the former by a spring.

*Claim.*—The arrangement, substantially as described, of the driving wheel C, shafts c c', spring D, notched bracket E e, and friction pulley F G, for the purpose of imparting a rotary motion to the dasher shaft f, in the manner herein described and set forth.

**72,088.**—DAVID SAUNDERS, Brooklyn, N. Y., assignor to JOSEPH NASON & CO., New York, N. Y.—*Steam Trap.*—December 10, 1867.—A cylindrical, open-topped vessel within a receiver has a central tubular stem sliding in a sleeve above. The stem has an opening at top communicating with the discharge pipe, and radial openings at its bottom communicating with the inside of the vessel. The water is received in the vessel, which is depressed thereby, and removes the head of the stem from that of the sleeve: the water is then forced out by steam pressure. When the vessel is emptied it floats up in the water surrounding it and closes the valve.

*Claim.*—First, the arrangement of the central part C of the cover and main cover B, substantially as herein set forth.

Second, the arrangement of the stop joint between the floating part and the fixed part of the apparatus, whereby to avoid the clogging by accumulations of dirt, as specified.

Third, the arrangement of the tubes E and H, the tube H being mounted upon the floating part, substantially as herein specified.

**72,089.**—RUDOLPH SCHRADER, Indianapolis, Ind.—*Door Spring.*—December 10, 1867.—The door, when projected against the arm of the spring, tightens the coil, the reaction of which closes the door.

*Claim.*—First, the door spring, constructed as described, consisting of the hollow socket F placed over the square shank of the door arm, and provided with the right angular arm J, sleeve E, to which the inner end of the coiled spring D is securely fastened, fitting at or alternating upon the socket F, and provided with the right angular arm I resting against the post H in the case A, the free end G of the spring resting against the opposite side of said post, all operating as described for the purpose specified.

Second, the spring D operated by means of the right angular arm J of the hollow shank F engaging with the outer, end G of the spring, when the door moves in one direction, and when moving in the opposite direction engaging with the arm I of the sleeve E, to which the inner end of the spring is secured, substantially as described for the purpose specified.

Third, the combination and arrangement within the case A of the spring D, hollow socket F having arm J, sleeve E having arm I, post H, and hook G, operating as described for the purpose specified.

**72,090.**—ANSON SEARLS, New York, N. Y.—*Pole Coupling for Vehicles.*—December 10, 1867.—The

touching surfaces of the hinges in the tongue irons have annular, counterpart ratchets. By loosening the pintle bolt the tongue can be angularly adjusted in respect to the axle.

*Claim.*—The circular joints B B and the arrangements of the ratchet teeth K K, springs D D, and bolts E E, in combination with the arm A, substantially as described and for the purposes set forth.

**72,091.**—ANSON SEARLS, San Francisco, Cal.—*Carriage.*—December 10, 1867.—The wedge-formed continuations of the spindles are connected by a flat, horizontal bar with an upwardly projecting rib. The angular recesses are filled in with wood.

*Claim.*—First, the axle composed of the steel bars d and g, attached as herein described.

Second, the clip b passing around under the axle with its ends fastened to the plate a on the rocker, both before and behind the axle, substantially as described.

**72,092.**—GEORGE SHALE, Taunton, Mass.—*Steam Engine.*—December 10, 1867.—The valve chest has a vertical partition, and the recessed valve rods slide in holes through this partition transversely to the steam ports, so as to connect either port with the induction or exhaust pipe.

*Claim.*—First, the steam chest B, constructed with the chambers g h and partition p, in combination with the steam and exhaust pipes and cylinder a, substantially as described.

Second, the valve rods i i', provided with the recesses or chambers k k', in combination with the partition p, constructed as described, and operated by the lever l, as and for the purpose set forth.

**72,093.**—ARCHIBALD SHAW, Philadelphia, Pa.—*Ferrule.*—December 10, 1867.—The ferrule has oblique spurs on its inner surface that are imbedded in the handle when the latter is bulged by the entering shank of the tool.

*Claim.*—A ferrule, provided internally or at its inner side with oblique spurs or projections, substantially as and for the purpose specified.

**72,094.**—WARREN H. SHAY, Sylvania, Ohio.—*Fence Post.*—December 10, 1867.—The two uprights of the post are connected by keys: a cross-piece below secures them to the braces that are attached to them near their upper ends.

*Claim.*—The plank standards B B, joined by the pins a a, the braces A A, and the cross-piece C, combined and secured by the dovetail tenons b b, the gib and key c d, and the keys g g, substantially as and for the purpose herein shown and described.

**72,095.**—CHARLES J. SHEPARD, Brooklyn, N. Y.—*Tubular Heater.*—December 10, 1867.—The slide valve at the junction of the upper and lower front flues provides means for direct draft. This upper flue is covered with a non-conductor. The tubes have a back door for cleansing. The air for combustion is heated in a corrugated, internally flanged chamber having an incombustible termination. The gases are consumed in a reverberatory combustion chamber. The feeding chamber has abutments to distribute fuel equally over the grate.

*Claim.*—First, the combination of the grate E, ash pit D, and combustion chamber C with the slide valve I, for the purposes indicated.

Second, the slide valve at the junction of the upper and under front flue, for the purposes described.

Third, the upper front flue covered externally with a non-conducting lining as a portion of the combustion chamber,

Fourth, the corrugated, tubular, externally-flanged chamber, provided with an incombustible termination, constructed and operating substantially as shown for the purposes pointed out.

Fifth, a semi-cylindrical reverberating chamber of combustion, when combined with a flue and a series of tubes, for the purposes specified.

Sixth, a feeding chamber in combination with an arched chamber of combustion and the abutments for properly distributing the fuel upon the grate.

Seventh, constructing the bed plate or grate plate in such a manner that the same shall form a support for the grate and brick work of the chamber of combustion, as well as the bed of the front flue.



Eighth, the division plate, in combination with a series of tubes, for the purposes fully described.

**72,096.**—J. W. SIMPSON, Newark, N. J.—*Window-Sash Supporter*.—December 10, 1867.—The wedge passes up between the sash and case. It is operated by a catch lever in the sash, which is engaged by a ratchet.

*Claim.*—The lever *d* and wedge *b*, constructed, combined, and operated substantially in the manner and for the purpose hereinabove set forth.

Also, the socket *m*, with its ratch *n*, and the catch *i* on the lever *d*, in combination with the lever and wedge, in the manner and for the purpose specified.

**72,097.**—THOMAS A. SLACK, Peoria County, Ill.—*Stake Holder for Railway Cars*.—December 10, 1867.—The socket block may be turned 90° to fold down the stakes horizontally and bring up the socket to receive the stake attached to the coal side.

*Claim.*—The combination of revolving staple, stakes, and divisional "coal sides," as described and for the purpose described.

**72,098.**—BENJAMIN SLUSSER, Sidney, Ohio, assignor to himself and ELIAS M. GLUCK, same place.—*Excavator*.—December 10, 1867.—The fore wheels turn loosely on their axle, except when clutched thereto, which is done by a hand lever. The spade has racks engaged by spur wheels on the fore axle by which it is raised. It is tripped by a treadle, and descends by its own weight. The earth is discharged onto an endless apron and is delivered into a dumping box. When the spade is thrown out of operation the apron mechanism is also stopped.

*Claim.*—First, the method of elevating or adjusting the plow of an excavator by the rotary motion of the forward axle, derived from the forward wheels by means of the clutches *a' a'*, substantially as and for the purposes set forth.

Second, in combination with the above the plow *P*, racks *r r*, and pinion *a*, when the latter is fixed to the axle and operates to raise the plow by power derived from the axle, substantially as and for the purpose specified.

Third, the combination of the rocking cart *C*, gear *e e'*, apron *B*, and plow *P*, when the parts are so constructed and arranged that by the raising or depressing of the plow the wheels *e e'* shall be thrown into or out of gear and the apron put in motion or stopped, substantially as and for the purpose specified.

Fourth, the combination of the looped rods *w w w* with the arms *v v v*, doors *m m' m''*, and lever *l'*, substantially as and for the purpose specified.

Fifth, the lips or projections *o o* of the doors *m m' m''*, substantially as and for the purposes set forth.

Sixth, the combination of the rod *u*, lever *l'*, spring *s*, trigger *n*, doors *m m' m''*, having the lips *o o o*, rod *y'*, and hook *y*, substantially as and for the purposes specified.

**72,099.**—DANIEL Y. SMITH, Joliet, Ill.—*Auger Handle*.—December 10, 1867.—The shank of the auger passes through the slot in the ferrule and is secured by the side spring.

*Claim.*—The combination of the ferrule *a* with the annular nut *e* and flat spring *c*, when constructed and arranged as and for the purposes set forth.

**72,100.**—J. B. SMITH, Milwaukee, Wis.—*Machine for Sharpening Saws*.—December 10, 1867; antedated December 6, 1867.—The frame has mandrels to hold the saw while subjected to the action of the rotary cutter and set. The saw is clamped on the mandrel by a nut, and its eye entered by a cone, driven out by a spiral spring, so as to insure true centering on the mandrel. The set has two levers pivoted to the frame and to each other, and their projections impinge against the saw teeth.

*Claim.*—Cutter *B*, gauge *E*, and adjustable cone-mandrel *D*, in combination, substantially as and for the purpose described.

**72,101.**—JOHN HENRY SMITH, Allegheny City, Pa.—*Raising Oils and Burning Fluids by Pneumatic Pressure*.—December 10, 1867.—The oil is conveyed into the compartment by a pipe and the valve is then closed. As the air pump forces the oil up through the

pipe and its branches, the air mingles with the gas of the oil, and the surplus of this mixture of air and gas is forced through the pipes; the mixture of oil, gas, and air is ignited at the ends of the branches.

*Claim.*—Raising, by pneumatic pressure, oils or burning fluids from an oil or fluid compartment of a ship or other vessel, and mixing with said oil and fluid the gas generated therefrom, as herein described and set forth.

Also, the combination and arrangement of the pipes *A B C f* and *f'*, when used in connection with an oil or fluid compartment *R* of a ship or other vessel, the whole being constructed, arranged, and operating substantially in the manner herein described and for the purpose set forth.

Also, in connection with the above, ejecting fine jets of water into the flame, caused by the burning of the oil or fluid and other matter mixed therewith, as herein described and set forth.

**72,102.**—JOHN HENRY SMITH, Allegheny City, Pa.—*Ship for Transporting Petroleum*.—December 10, 1867.—The compartment for storage of oil in the hull of the vessel has supply and discharge pipes attached, and is protected by water which can be applied through the pipes to discharge the oil.

*Claim.*—Providing the hulls of ships and other vessels with a compartment for oils and burning fluids, said compartment being protected with water, and furnished with supply and discharge pipes, substantially as herein described and for the purpose set forth.

**72,103.**—R. T. SMITH and J. K. PRIEST, Nashua, N. H.—*Device for Shearing and Clipping Wool*.—December 10, 1867.—The rotary cutter teeth turn in a recess of the shield whose edge is serrated to form fingers as abutments for the cutters.

The cutter arm is hinged so as to admit of presentation to any part of the sheep.

*Claim.*—First, the revolving spring cutter or cutters *O*, in connection with a cutter plate.

Second, the open cutter plate *P*.

Third, the shield *N*, in connection with the cylinder *C* covering shaft *M*, and extending into groove *g*, substantially in the manner and for the purpose herein described.

**72,104.**—JOHN SNYDER, Williamsfield, Ohio.—*Corn Plow*.—December 10, 1867.—The vertical inclination of the tongue to the main beam is adjustable at the front end of the latter. The upright on the beam enters a mortise in the tongue and may be raised from the beam and retained by a transverse bolt.

*Claim.*—The combination of the tongue *H*, strap *L*, and upright *K* with the forward end of the central beam *A*, substantially as herein shown and described and for the purpose set forth.

**72,105.**—VIVIAN K. SPEAR, Lynn, Mass.—*Boot-heel Polisher*.—December 10, 1867.—The boot is clamped to the sliding frame, and the polisher reciprocated over the surface of the heel by an eccentric, whose rod is connected to the oscillating arm.

*Claim.*—First, the reciprocating polisher, moving in the line of an arc of a circle by means of mechanism substantially as herein described and having an elastic bearing, as and for the purpose set forth.

Second, in combination with a reciprocating polisher, substantially as described, the pivoted sliding frame to support the boot or shoe, constructed, arranged, and operating substantially as set forth.

**72,106.**—ROBERT R. SPEDDEN and DANIEL F. STAFFORD, Astoria, Oregon.—*Propelling Vessels*.—December 10, 1867.—The two sections of the vessel are pivoted together, and as the water alternately elevates or rocks the opposite ends, the connecting, rocking beams and gearing work the paddle wheels.

*Claim.*—First, the combination of the rack frame *K*, racks *I* and *J*, and ratchet wheel *H*, with each other, and with a shaft *D* for the purpose of applying power to said shaft, substantially as herein shown and described.

Second, the combination of the stationary post *O*, pitman *N*, rocking post *M*, and adjustable slide *L* with each other, with the rack frame *K*, and with the hinged parts of a vessel or other structure, one or



both of said hinged parts floating in the water, so as to be acted upon by the motion of the waves, substantially as herein shown and described.

**72,107.**—C. E. STELLER, Chicago, Ill.—*Cultivator*.—December 10, 1867.—The frame has upper and lower beams on each side, each beam consisting of two rails between which the standards are retained by pins, giving a means of adjustment in position, and inclination. The everer or doubletree has pendants for attachment of the singletrees, and the tongue passes through a horizontal slot in the same, preventing vertical oscillation. The rear handle bar is vertically adjustable. The depth is regulated by hinged runners.

*Claim.*—First, the hinged runners J W, substantially as and for the purpose set forth.

Second, the slotted sides A A and B B, in combination with the shanks C D E, arranged to be set at different angles, and fastened by set screws Z Z, as described.

Third, the combination of the guide bar E, arranged to be raised and lowered, with rear standards H H and sides A A B B, as described.

Fourth, the combination of standards G G, hinged runners J W, and sides A A B B, as set forth.

Fifth, the shanks U of shovel T, arranged to fit in a socket V, and bar S, in combination with standards G G and cross-bar I, as and for the purpose set forth.

Sixth, the double everer L, arranged substantially as set forth.

Seventh, the double everer L, in combination with braces O O and P P, with or without braces Y, substantially as set forth.

**72,108.**—BENJAMIN F. STEPHENS, Brooklyn, N. Y.—*Eye Cup*.—December 10, 1867.—The two eye-bowls are connected to an exhaustion bag or ball by an air tube so that the same pressure may be exerted simultaneously on each eye to maintain an equal convexity to the respective corneas.

*Claim.*—A pair of bowls, united by tubes or necks to an exhaustion bag or ball, as and for the purposes set forth.

**72,109.**—EDWARD STEWART, Fort Madison, Iowa.—*Harvester Rake*.—December 10, 1867.—When the pitman draws the rake shaft, the teeth project between the slats and catching the grain, rake it from the platform. When the pitman moves the shaft back, it partially rotates, so that its teeth drop beneath the level of the slats and pass under the grain.

*Claim.*—The arrangement of the shafts D E and G with their respective wheels, crank I, and pitman J with its dividing end J' connecting the arms e e upon the box K' at the end of shaft K, the whole constructed and operating substantially as and for the purposes specified.

**72,110.**—HENRY M. STOW, San Francisco, Cal.—*Street Pavement*.—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, a wooden pavement, composed of alternate tiers of square-ended and wedge-shaped blocks, the wedge-shaped ends of the latter being driven down into a foundation bed of sand or earth, substantially as and for the purpose described.

Second, a wooden pavement, composed of blocks with lower ends wedge-formed, and all driven down into a foundation bed of sand or earth, substantially as shown and described.

**72,111.**—HENRY M. STOW, San Francisco, Cal.—*Street Pavement*.—December 10, 1867.—The cast-iron plates have projected flanges which are driven into the ground. The sections are tightened by wooden blocks.

*Claim.*—First, the cast-iron plates, with projecting wedge-shaped flanges to be driven into the sand or earth, substantially as and for the purpose set forth.

Second, a pavement, composed of alternate tiers of cast-iron plates with projecting wedge-shaped flanges and wedge-shaped wooden blocks driven into the sand or earth, substantially as described.

**72,112.**—JOHN D. SCHWARTZ, Milton, Pa.—*Washing Machine*.—December 10, 1867.—The suds box has a segmental series of rollers, and the semi-

cylindrical rubber forces the clothes against the said rollers in its oscillation. The rubber is depressed by arms through which the rubber shaft passes, and which are connected to a lever beneath the box.

*Claim.*—First, the slotted arms g, bearing the shaft D and rubber C, when such arms are connected at their lower ends by the slotted bar E through which the spring G passes, as herein described, for the purpose specified.

Second, the combination of the semicircular rubber C, slotted arms g, shaft D, slotted cross-bar E, spirally-grooved rollers d in the curved frames B, the spring G, and rack H, as herein described, for the purpose specified.

**72,113.**—GEO. D. SWEIGERT, Martie township, Pa., assignor to himself and JOHN and FELIX W. SWEIGERT.—*Portable Fence*.—December 10, 1867.—The rails of the fence are secured between the separating ferrules on the vertical post.

*Claim.*—A portable fence, combined of round wrought-iron posts C, bed plate A, rails B, scarfed and applied with intervening ferrules D, head and bottom washers F, all arranged in the manner and for the purpose specified.

**72,114.**—GEORGE C. TAFT, Worcester, Mass., assignor to THEODORE MACE, Sing Sing, N. Y.—*Variable Crank for Boring Machine*.—December 10, 1867.—The two variable cranks are adjusted to regulate the leverage to the resistance of the auger.

*Claim.*—The two variable cranks, constructed as specified, and applied in the manner shown to the shaft or axis of the boring machine, as and for the purposes set forth.

**72,115.**—JAMES TEACHOUT, Waterford, N. Y.—*Rotary Take-up for Knitting Machine*.—December 10, 1867.—The object is to insure a uniform tension on the goods. When the take-up is made to revolve and the oblique toothed wheel turns inward toward the scroll plate, the shafts are made to rotate until the cloth overcomes the resistance of the spiral spring connected to the bell-crank lever; the scroll then disengages the clutch and stops the take-up motion for a short period.

*Claim.*—First, the stationary scroll plate C, placed over the center of motion of take-up of knitting machines, for the purpose described.

Second, in combination with the scroll plate C, the toothed gear D, for the purpose herein set forth.

Third, the toothed wheel D, or its equivalent, either separately or combined with the described appendages e f g i K, arranged as shown and described, and operating substantially in the manner and for the purpose specified.

Fourth, in combination with the above, the adjustable gear s and concentric gears s', for the purpose described.

**72,116.**—JAMES TEACHOUT, Waterford, N. Y.—*Knitting Machine*.—December 10, 1867.—Improvement on patent of E. M. Ray, May 30, 1854. The needles are supported in a lateral way by a projecting arc of the jack. An arch is formed on the upper side of the jack to depress the "cloth" below the level of the needles.

*Claim.*—First, forming the "jacks" or loop-lifters B with a projecting arc f and depressed arc g, for the purposes set forth.

Second, in combination with the arc f and arch g, the rounded end, as shown and described.

Third, in combination with the described knitting jacks, a retaining hub or device, constructed and arranged as shown and described.

**72,117.**—JAMES TEACHOUT, Waterford, N. Y.—*Knitting Machine*.—December 10, 1867.—The inner rounded ends of the lifting jacks turn in annular recesses of two collars upon the smaller portion of the cylinder. These collars are made vertically adjustable to suit the description of work.

*Claim.*—First, the vertically-adjustable collars or rings G and H, for the purposes described.

Second, in combination with the collars G and H, the partitions or wings k and groove l, as set forth.

Third, in combination with the adjustable collars G and H, wings k, and groove l, the "jacks" or lifters



M, formed as shown and described, for the purpose specified.

**72,118.**—JOHN B. TERRY, Hartford, Conn.—*Manufacturing Illuminating Gas.*—December 10, 1867.—The saturated air or gas is passed through a heated retort in which the air and hydrocarbon are each decomposed, and a mixture of air, carbureted hydrogen, and a small quantity of carbonic acid passes out from the retort to the burners, or is collected in the gas-holder.

*Claim.*—First, the method herein described, of heating air charged with hydrocarbon vapor, so as to render it non-condensable previous to its delivery as an illuminating gas, for the purposes set forth.

Second, the employment of a retort or other heating medium, interposed between the carbureter and gas-holder, or other gas-delivering or gas-burning device, substantially as and for the purposes set forth.

Third, the employment of one or more burners under the retort or vessel, for the purpose of heating the same, under the arrangement herein shown and described.

Fourth, the combination with the carbureting vessel and intermediate heater of a jacket under or around the said carbureter and a flue connecting the jacket with said heater, substantially in the manner and for the purposes set forth.

**72,119.**—S. T. THOMAS and J. H. DOLLEY, Gilford, N. H.—*Loom.*—December 10, 1867.—The swinging arm projects from the rocker shaft, and is held normally in position by a spring that allows the arm to yield freely to the blow of the shuttle against the picker staff. The incline insures the removal of the picker from the path of vertical movement of the shuttle boxes and shuttles at such times as the boxes are to be shifted.

*Claim.*—In combination with the lever *g*, arranged to operate as set forth, the incline *n*, or its equivalent, for relieving the picker from the action of the spring *i*, to permit free movement of the shuttle boxes, substantially as set forth.

**72,120.**—JOHN W. THOMPSON, Greenfield, Mass.—*Gate.*—December 10, 1867.—The tubular rods and braces are screwed into coupling joints to form a gate.

*Claim.*—A gate, made of metallic tubing and connections, substantially as herein set forth and described.

**72,121.**—JAMES THOMS, South Boston, Mass.—*Tail Piece for Violins.*—December 10, 1867.—The string is attached to the tail board by a small winch, so that when broken it may be payed out for reattachment.

*Claim.*—Applying a winch to the tail piece of a violin, substantially as and for the purpose herein shown and described.

**72,122.**—R. S. TYTCOMB, Gloversville, N. Y.—*Folding Bedstead and Crib.*—December 10, 1867.—The frame of the bedstead is hinged and pivoted, so as to fold together in a small compass when not in use.

*Claim.*—First, a folding bedstead or crib, substantially as shown and described and for the purpose set forth.

Second, a rotating bedding box A, in combination with the head and foot boards of a bedstead or crib, substantially as shown and described and for the purpose set forth.

Third, folding head and foot boards, composed of the parts F and C, substantially as shown and described and for the purposes set forth.

Fourth, the swinging sides A', in combination with the box A and the head and foot boards F C, substantially as shown and described and for the purposes set forth.

**72,123.**—J. F. TROXEL, Bloomsville, Ohio.—*Steam Engine.*—December 10, 1867.—The pistons are operated in a cylinder without heads, so as to exert the full expansive force of the steam on the main shaft.

*Claim.*—First, the construction of the oscillating valve T, and arrangement of the openings S P P' and R, substantially as shown and described.

Second, the arrangement of the piston rods K and

L, operating in one and the same end of the cylinder, substantially as shown and described.

**72,124.**—NATHAN TURNER, West Lynn, Mass.—*Wardrobe.*—December 10, 1867.—The sides, top, and bottom fold upon each other, and have grooves for the retention of the shelves when used as a closet or book-case.

*Claim.*—A convertible wardrobe, closet, or book-case, with swinging or folding sides C, and swinging or folding top A, and bottom B, substantially as described and for the purpose set forth.

**72,125.**—HERBERT W. C. TWEDDLE, Pittsburgh Pa.—*Apparatus for Distilling Oils.*—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, a trough or troughs having perforations for the passage of the oil in small quantities, and furnished with points near to such perforations, so as to cause the oil to pass therefrom in drops, or fine streams, or thin films or layers, over heated pipes or tubes placed thereunder, when used within a vacuum still, for the purposes substantially as described.

Second, in a vacuum still for distilling oil the use of a series or coil of steam pipe placed horizontally, one under another, as a series of evaporating surfaces, substantially as and for the purposes above set forth.

Third, in a vacuum still for distilling oil, a series or coil of steam jet pipes *e*, in combination with a series or coil of evaporating pipes *a*, substantially as and for the purposes above set forth.

Fourth, combining together a series of apparatus, such as hereinbefore described, for the purpose of procuring a continuous distillation of petroleum, each member of a series consisting of a vacuum still containing a coil of steam pipe as evaporating surfaces, and troughs for the gradual distillation of the oil, in combination with suitable condensing apparatus, substantially as and for the purposes hereinbefore set forth.

Fifth, a vacuum residuum receiver D, connected to and in combination with a vacuum still, or a battery of such stills, substantially in the manner and for the purposes above set forth.

**72,126.**—HERBERT W. C. TWEDDLE, Pittsburgh Pa.—*Distilling Hydrocarbon Oils.*—December 10, 1867.—Explained by the claims and illustration.

*Claim.*—First, in distilling hydrocarbon oils, vaporizing the oil by causing it to flow in a thin film or layer over the surfaces of a series of heated pipes in a vacuum still, with or without the application of superheated steam, substantially as above described.

Second, the application of the process of distillation hereinbefore described, to the re-distillation of fire-distilled oils, for the purpose of producing an oil similar to the refined oil of commerce, substantially as above set forth.

Third, securing a continuous and complete distillation of hydrocarbon oils, by causing the oil to flow over the surfaces of a succession of heated pipes in different vacuum stills, the temperature of such pipes increasing in each successive still, so as to drive off at first more volatile ingredients, and then those less so, and so on till only the residuum remains, substantially as hereinbefore described.

**72,127.**—JOSEPH G. VALE, Cumberland county, Pa.—*Grain Drill.*—December 10, 1867.—The concavity beneath the shovel has cross-rods; on the transverse rod are spherical rollers to spread the seed as it falls.

*Claim.*—The quadri-elliptical shovel B, with its base E E' coming to a point at E, the rod C, the rod H, with thereon the balls D and D', together with the funnel A, all constructed and operating in the manner and for the purpose described.

**72,128.**—GEORGE R. VANDERBILT, Mount Vernon, N. Y., assignor to himself, J. J. LINDSTROM, and D. W. SPIDOLPH, same place.—*Window Sash Stop.*—December 10, 1867.—The clamping plates are secured with a tightening bolt to lock the sash in any position. The attached springs hold the sash without rigidly locking it.

*Claim.*—First, the two clamping plates and the tightening bolt, combined and operated substantially as and for the purpose specified.



Second, the springs, arranged in relation to the plates *c d*, substantially as and for the purpose specified.

**72,129.**—GEORGE W. VAN DUSEN, Williamsburg, N. Y.—*Musical Instrument*.—December 10, 1867.—By the rotation of the perforated surface the notes of the instrument are sounded in the order required; as the finger pieces fall into the depressions the keys move and the air passage is opened.

*Claim.*—The combination and arrangement of lever *V* with finger piece *Y* at one end and stud *b* at the other, valve *G* and air passage *E* closed by a flexible diaphragm *K*, substantially as herein described and for the purpose of producing, by means of air, an action upon any suitable sound-producing mechanism through the movement of a sheet or strip perforated, or in any other equivalent manner prepared.

**72,130.**—ANDREAS VANG, Ill.—*Water Indicator for Boilers*.—December 10, 1867.—The float is connected to a plug having an axial opening communicating between the steam space and a whistle, when the float is in its lowest position. The outer end of the plug carries a pointer to indicate the position of the float.

*Claim.*—The arrangement of the globe *a*, arm *b*, cylinder *c*, indicator *f*, and whistle *g*, substantially as herein set forth.

**72,131.**—OLIVER VANORMAN, Ripon, Wis.—*Horse Hay Fork*.—December 10, 1867.—The levers are actuated to close the forks on the hay by the draft cords to which they are attached.

*Claim.*—The arrangement of the fork heads *B B'* in the frame *A*, and with the arms *C C'*, rollers *e e*, and cords *D D*, as and for the purpose set forth.

**72,132.**—LEWIS VAUGHAN, Rapids, Ohio.—*Washing Machine*.—December 10, 1867.—The adjustable bottom is regulated relatively to the corrugated rotating roller, according to the thickness of the clothes passing through.

*Claim.*—The adjustable bottom *B* and spring lever *I*, as arranged in combination with the roller *C*, in the manner substantially as described.

**72,133.**—ALBERT VOSE, Pittsfield, Vt., assignor to himself and AMBROSE S. VOSE, Randolph, Vt.—*Hay Raker and Loader*.—December 10, 1867.—The hay, after being gathered by the rake, is grasped by the forks, and the friction blocks being simultaneously applied to the wheels, the arms upon which the blocks are mounted turning upon the same center as the wheels, are fastened thereto, and by the rotation of the wheels, as the machine is drawn forward, are raised into a vertical position, carrying the loaded fork with them, until the lever strikes the projecting arm that precipitates the hay on the load.

*Claim.*—First, the fork arm *b*, hinged or pivoted to the frame in line with the axle, and operated by means of friction blocks, as described.

Second, the friction blocks *d*, in combination with fork arm *b* and eccentric levers *e*, arranged as described.

Third, the fork arms *b*, in combination with the freely swiveling fork bar *o*, operated as described.

Fourth, the forks *q* pivoted in swiveling bar *o*, and operated by means of levers *v*, and rods, cords, or chains, substantially as described.

Fifth, the levers *v* mounted on fork bars or arms *b*, in combination with the fork *q*, substantially as described.

Sixth, the combination of forks *q*, spring *t*, chains *w*, and levers *v*, with the fork arm *b*, substantially as and for the purpose set forth.

Seventh, the means for opening and closing the lifting forks, in combination with a means for operating the friction blocks, or their equivalent, whereby they are operated simultaneously, as described.

Eighth, the lever *e* for closing the forks and applying the friction blocks, as described, in combination with the arms *g* for releasing the same, as described.

Ninth, the extension *x* of the pivoted fork bars *b*, in combination with cords or chains *5*, operating as described.

Tenth, the curved or semicircular rake head, or its equivalent, arranged in rear of and operated in con-

nection with the lifting fork, substantially as described.

**72,134.**—GEORGE E. WADE, Jefferson City, Mo.—*Washing Machine*.—December 10, 1867.—The lower corrugated, perforated board is attached in the bottom of the tub by projecting springs. The upper board receives a combined vertically and rotary motion through its connection with the lever and spiral plate.

*Claim.*—The lever *M*, the spiral metal plate *F*, the washboards *A* and *B*, corrugated as shown, and the springs *e e' e''*, in combination with a common wash tub, when constructed, arranged, and operating substantially as shown and specified.

**72,135.**—JOHN WAKEFIELD, Birmingham, England, assignor to ISAAC SMITH and WILLIAM FOTHERGILL BARTHO.—*Bolt and Rivet Machine*.—December 10, 1867; patented in England September 14, 1865.—The rod is fed through a guide plate into movable dies, the length of the blank being regulated by a stop. The movable dies have an oscillating motion, and have three functions. They cut off the rod fed into the machine, carry the blank in front of the heading die, and finally serve as the die in which the head of the bolt is formed. The vertical dies descend, cutting off the length of rod against the face of the guide plate, and carry it in front of a hollow die that has a horizontal motion, the interior of the die corresponding to the intended form of the shank of the rivet. The back of the hollow die is closed by a stopper situated in the axis of the plunger.

*Claim.*—First, the arrangement or combination, substantially as hereinbefore described and illustrated in the accompanying drawings, of the vertical dies *b b*, for cutting off and carrying the cut-off length of rod, and for shaping the head of the rivet or bolt, with the horizontal punch or die *m* for shaping the shank of the rivet or bolt, and upsetting the end of the rivet or bolt into a head in the vertical dies.

Second, the arrangement or combination of parts hereinbefore described, and illustrated in the accompanying drawings, for giving motion to the said vertical dies *b b*, and horizontal punch or die *m*.

Third, the arrangement or combination of parts hereinbefore described, and illustrated in the accompanying drawings, for removing the finished rivet or bolt from the horizontal punch or die.

**72,136.**—DUDLEY WEBSTER, Washington, D. C.—*Egg Beater*.—December 10, 1867.—The bowl of the beater is serrated around its edges, and has a serrated aperture in the middle.

*Claim.*—As a new article of manufacture, an egg-beater spoon, constructed as described, viz., with its circumference and the edges of an inner central opening serrated, as and for the purpose described.

**72,137.**—PETER V. WESTFALL, Kalamazoo, Mich.—*Brick Machine*.—December 10, 1867.—The tempered clay is conveyed from the pug mill to the hopper from whence it descends, and is deflected laterally by ordinary knife-like partitions in the hopper, to the molds in the two revolving cylinders. After a number of revolutions the molds are filled with clay that is consolidated by the action of the followers, aided by the supply of clay from the central section of the hopper. The operator then shifts the cams and discharges the molded bricks on the endless apron, and turns the cams to their former position, when the process is repeated.

*Claim.*—First, the combination of the two molding cylinders *C C*, when the molding recesses *I I* in said cylinders, and their intermediate followers *J J*, are so proportioned with each other that the faces of said followers cannot be brought in contact with each other and when the said follower pieces have substantially the degree of curvature herein represented and described.

Second, in connection with the molding cylinders *C C*, the central shaft *b* and its operating levers *L L*, in combination with the jointed rods *n n* and the crank arms *m m*, on the respective cam shafts, for operating all the cams simultaneously, substantially in the manner herein set forth.

Third, the vibrating spring scraper *i* in combination with the wire-cloth belt *w*, when arranged with the molding cylinders *C C*, and operated substantially in the manner and for the purpose herein set forth.



**72,138.**—NATHANIEL WESTON, San Francisco, Cal.—*Apparatus for Enameling Photographic Pictures.*—December 10, 1867.—The enameling glass, after sufficient pressure upon the eard to distribute the enamel, is steadied on the rest until the enamel is sufficiently set to receive the clamps which hold the plates of glass together. The weight is placed upon the glass when the hand is removed. The enameling block rests upon four square tapering blocks, which are placed in a shallow vessel to catch the surplus enamel.

*Claim.*—The rest A for the glass, or its equivalent; the use of the glasses B B, the weight G, the fastenings H, the clamps E E, or their equivalents, in part or in combination, for the purposes herein set forth.

**72,139.**—NORMAN W. WHEELER, Brooklyn, N. Y.—*Valve Gear for Steam Engine.*—December 10, 1867.—The eccentric acts upon a series of cylindrical plunger valves on a single stem working in a cylindrical chamber filled with water, and communicating with other chambers by valve-ports. One of these chambers has a cylindrical plunger, whose stem forms the valve stem of the engine slide valve. During a portion of the movement of the eccentric rod, ports are open for the escape of the water to the side chamber, but a further movement closes the ports and forces water on the plunger, which, when sufficiently moved, opens another passage and allows the escape of the water. The continued reciprocation of the eccentric rod and the stem to which it is attached is turned into an intermittent reciprocation in the engine valve stem.

*Claim.*—First, opening the proper ports, as *i' i''*, so as to suspend the operation of the moving force upon the valve or valves at the period when the steam is cut off, and before the exhaust is opened, substantially as and for the purpose herein set forth.

Second, the closure of certain ports, as *i' i''* and *k' k''*, so as to cause the valve or valves to resume the movement towards its or their full throw at the proper period, substantially as and for the purpose herein set forth.

Third, opening the proper ports, as *k' k''*, so as to suspend the moving force operating upon the valve or valves, when they or it have reached the proper limit of throw, substantially as and for the purposes herein set forth.

Fourth, regulating the times of closing passages, so as to induce the cutting-off movement of the valve or valves, at variable periods, substantially in the manner and for the purposes herein set forth.

Fifth, changing a continuous reciprocating motion derived from an eccentric, or equivalent moving part of the engine, to an intermittent reciprocating motion by means of a hydraulic apparatus, as hereinbefore described, substantially in the manner and for the purposes herein set forth.

**72,140.**—A. H. and T. S. WHITACRE, Morrow, Ohio.—*Ditching Machine.*—December 10, 1867.—The scoops work on an endless chain actuated by grooved pulleys, which are raised or lowered on the runners that support the machine. The motion is given by a sweep, and the same power winds the hauling rope on the drum, to advance the machine against the "breast" of soil or gravel.

*Claim.*—First, the combination of the sled A and the frame B, connected by the racks and pinions *c a*, at the corners, arranged and operating substantially as and for the purpose described.

Second, the pulleys D and E, carrying the endless chain *g* with the scoops *h h*, in combination with the drum C, the plungers *n n* operating by the double incline *p* around the wheel K and the sweep F, constructed and operating substantially as and for the purpose herein described.

**72,141.**—SAMUEL P. WILLIAMS, Sheridan, N. Y.—*Farm Fence.*—December 10, 1867.—The triangular side posts between which the rails are placed are supported by a metallic frame whose ends are secured to the foundation stone and whose cross-bars serve to support the rails.

*Claim.*—The application and use of the triangular brace-posts B B and tie rod C in the construction of farm fences, in the manner substantially as described.

**72,142.**—HUGH B. WILLSON, New York, N. Y.—*Ventilating Tunnel.*—December 10, 1867; antedated

November 28, 1867.—Pipes lead from openings in the posts to the lower portion of the tunnel and supply air thereto. From the crown of the tunnel, pipes lead to the hollow post, which forms a flue for the discharge of the air.

*Claim.*—First, the method of applying street-lamp posts, and awning and other useful or ornamental posts, pillars, or structures to the purposes of ventilating underground railway tunnels, substantially as within described.

Second, the combination of street-lamp posts, and awning and other posts, pillars, or structures, whether for ornament or use, with the connecting tubes of such railway tunnels, substantially in manner set forth.

**72,143.**—JAMES T. WILSON, Brooklyn, N. Y.—*Medical Compound.*—December 10, 1867.—For treatment of fever and ague. Holland gin, 3 gills, reduced one-half by evaporation; tincture of capsicum, 7 oz.; tincture of peppermint, 1 drachm; tincture of opium, 1 drachm.

*Claim.*—The combination of the above named ingredients in the manner as and for the purpose described.

**72,144.**—WM. H. WINANS, Newark, N. J.—*Shoe Lifter.*—December 10, 1867.—The concave lever plate is inserted in the boot leg and the compound-action levers behind tighten the hold.

*Claim.*—First, the combination of the lever plate A, gripping plate B, spring *b*, and holding lever C, substantially as and for the purpose specified.

Second, the teeth or studs *a'* provided upon the inner surface of the gripping-plate B, and arranged in relation with the back of the plate A, substantially as and for the purpose specified.

**72,145.**—T. W. WISNER, Howell, Mich.—*Stove.*—December 10, 1867.—The stove is supported on truck wheels to facilitate its removal from place to place. An adjustable grate occupies the whole interior superficial area of the stove.

*Claim.*—The portable hop-drying stove, constructed as described, of the corrugated side and end plates A, supported upon the ash pan B, extending the entire length of the stove, and mounted upon wheels, the adjustable grate placed at *b*, in the center of the stove, and the boiler, all arranged as described for the purpose specified.

**72,146.**—JOHN WOLFE, Washington, D. C.—*Paper File.*—December 10, 1867.—The lazy tongs is attached to an adjusting ratchet bearer and supports the shelf below.

*Claim.*—The paper file or holder, constructed and operated as herein recited.

**72,147.**—AURIN WOOD, Worcester, Mass.—*Lathe Box and Journal.*—December 10, 1867.—The recess beneath the journal is filled with some fibrous material that sucks up the oil imparted to it by the duct from the reservoir, and distributes it over the journal by the diagonal grooves on its face.

*Claim.*—First, the combination and relative arrangement of the oil box B and groove *a*, and inclined oil passage *e*, formed in the bottom part A of the journal box, substantially in the manner and for the purposes herein shown and specified.

Second, the combination of the journal C, having the peculiarly-shaped grooves *d d* cut in its surface with the journal box B, provided in its lower part with the oil box, inclined oil passage, and groove *a*, under the arrangement substantially as herein shown and set forth.

**72,148.**—AURIN WOOD, Worcester, Mass.—*Lathe for Forming Shafting.*—December 10, 1867.—The motion of the shaft which is being turned actuates the pump and forces the water from the reservoir through the tube into the cup, from whence it runs onto the part of the shaft being turned.

*Claim.*—First, the combination with the bed of the lathe, provided with a reservoir or receptacle as described, of the sliding tool carriage and the pump, attached to and moving with said carriage, substantially as and for the purposes shown and set forth.

Second, the combination with the sliding tool carriage and pump, mounted upon said carriage, of the cup C, and tube connecting said cup with the pump,



substantially in the manner and for the purposes herein shown and described.

Third, the method of operating the pump, by connecting the piston rod of the same with a friction wheel, actuated by the rotation of the shaft which is being turned in the machine, in the manner herein shown and specified.

**72,149.**—WALTER A. WOOD, Hoosick Falls, N. Y.—*Finger Fan for Harvesters.*—December 10, 1867.—Explained by the claim and illustration.

*Claim.*—Bevelling off the front upper corner of the finger-bar, to afford a seat for the sickle or scythe-bar to vibrate upon, in combination with bevelling off the lower side of the finger-bar for the reception of the guard-finger.

**72,150.**—W. H. WOODS, Philadelphia, Pa.—*Current Fixture.*—December 10, 1867; antedated December 6, 1867.—The metallic rack is attached vertically to the side of the window frame and holds the cord connected with the shade by means of a lever dog that works in a longitudinal slot in the rack. It is engaged to or disengaged from the teeth by moving the lever in or out of the slot, and is secured in place, when engaged, by a swivel knob on which is a pulley that carries the cord of the shade.

*Claim.*—The lever dog *c* with the cross foot *e* engaging and disengaging the teeth of the rack *b b*, in combination with the swiveled knob *d*, having a cross-bar *g* and working in the slot *a a* of the rack case *A*, substantially as and for the purposes herein described.

**72,151.**—E. S. PHELPS, Jr., Wyandot, Ill.—*Chimney.*—December 10, 1867.—The chimney rests on a metallic base which has a drawer to receive the soot.

*Claim.*—The device above described, consisting of the iron box *A* and drawer *B*, constructed and arranged as shown, when used in combination with the chimney *D*, substantially in the manner and for the purposes specified.

**72,152.**—ABRAM ALEXANDER, Pittsburg, Pa.—*Bolt-making Machine.*—December 17, 1867.—The plungers are secured in sockets of sliding blocks, which are connected by toggle levers to a gravitating weight by whose fall they are actuated in heading the blank. Each blank is held between two clamping dies, which are opened for its reception and discharge; the latter is accomplished by a spring rod actuated by a hammer, the rod impinging against the point of the bolt. The weight is raised by a compound rotating cam.

*Claim.*—The combination of the piece *D*, guides *d d*, and frame *A* with the pieces *H H*, bolts *G G*, and gripping dies *J J'*, guides *G' G' G' G'*, arranged and operating substantially in the manner and for the purpose set forth.

The compound cam *F* and block *F'*, in combination with the drop piece *D*, to obtain a vertical upward motion of said piece *D*, in the manner specified and for the purpose stated.

The hollow screw *1*, bolt *3*, and nut *18*, in combination with the hammer *7*, or its equivalent, and the gripping dies of a bolt-making machine, substantially in the manner and for the purpose specified.

**72,153.**—ABRAM ALEXANDER, Pittsburg, Pa.—*Machine for Making Bolts.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The combination and arrangement of the cam *C*, levers *G* and *M*, bar *D*, and pin *T* with the weight *W*, or a spring, acting substantially in the same manner, when used and applied to operate the gripping dies closing machinery, described in my improved bolt-making machine, or any other substantially the same.

**72,154.**—ANDREW E. BANKS, Detroit, Mich.—*Churn Dasher.*—December 17, 1867.—The disks are in a vertical series attached together by the dowel rods, and having axial openings through which the cream is forced. The tubular dash shaft passes through the upper disk, and has a downwardly opening valve at its lower end.

*Claim.*—First, the use of the dowel-pins *B B B B*, for the purpose described, when arranged substantially as set forth.

Second, the combination of the disks *A A*, &c., with

holes through them *F F*, &c., the upper disk or collar *G*, with the hollow handle *C*, provided with the valve *E*, and the dowel pins *B B*, &c., when arranged substantially as described and for the purpose designed.

**72,155.**—ASHBEL P. BARLOW, Claremont, N. H.—*Saw Mill.*—December 17, 1867.—The upper guides have double inclines to draw the saw backward in its upward movement, at first faster and then more slowly. The saw is loosely coupled to the pitman beneath its connection to the cross head, so as to give an equivalent compensating motion to the lower end of the saw, to that communicated from the inclination of the guides to its upper end.

*Claim.*—First, the ways or guides *b*, constructed with the double inclines and parallel sides, substantially as shown and described.

Second, the cross-head, cut away, as shown at *s*, and provided with the lips having the convex faces *r r*, constructed and operating substantially as and for the purpose set forth.

Third, the saw-buckle, perforated and slotted as described, in combination with the gib or key bolts *o*, as set forth.

Fourth, the hollow pitman, slotted at *m*, and provided with adjusting keys for varying the distance of the saw pivot from the pitman fulcrum, in the manner and for the purpose set forth.

**72,156.**—GEORGE H. BECKER, Memphis, Tenn., assignor to himself and JOHN C. LANIER, same place.—*Device for Accumulating Power.*—December 17, 1867.—Motion is communicated from the crank of a hand wheel to that of a fly wheel by a system of levers and pitmans.

*Claim.*—The construction and combination of the levers *E G J M O R* and *X* with the pitmen *D H L P* and *U*, the connecting arm *T*, and the wheel *W* and weight *Y*, when arranged as herein described and for the purpose set forth.

**72,157.**—E. C. BENDER, York, and WILLIAM STEFFE, Philadelphia, Pa.—*Drying and Seasoning Lumber.*—December 17, 1867.—Explained by the claim.

*Claim.*—The within described process of seasoning lumber, consisting in subjecting the lumber to the action of a gradually increased temperature, in an air-tight chamber, until all or nearly all the moisture has been extracted from it; in retaining all the heat and watery vapor about the lumber until a temperature of about 170° Fah. has been attained in said air-tight chamber; and, finally, in compelling the heated moistened air to escape slowly from said chamber while the temperature is reduced therein substantially in the manner herein set forth.

**72,158.**—CHARLES BOIZE, New York, N. Y., assignor to himself and PETER M. DEVOS.—*Preserving Eggs and Other Substances.*—December 17, 1867.—The eggs are packed in pulverized slate.

*Claim.*—The use of argillite, substantially as and for the purpose described.

**72,159.**—S. A. BOSTWICK, Laconia, N. H.—*Plumb and Level.*—December 17, 1867.—The stock has a segmental index plate, which slides on the curved edge of the semicircular level block, and is secured by a set screw.

*Claim.*—The semicircular spirit block *B*, fitting and adjusting in the semicircular space in the stock *A*, arranged and operating substantially as and for the purpose herein specified.

Also, the grooves *g* and *i* and stops *h* and *l*, combined and arranged substantially as and for the purpose set forth.

**72,160.**—D. BOYNTON, St. Johnsbury, Vt., assignor to himself, H. G. O. BURROWS, and ARTHUR E. WHITNEY.—*Combined Shovel and Sifter.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—A fire shovel *A*, provided with a supplemental bottom *e*, containing a screen *f*, and also provided with a cover or lid *B*, all arranged in the manner substantially as and for the purpose set forth.

**72,161.**—SEWALL BRACKETT, Jamaica Plain, Mass.—*Machine for Separating Roots from Peat.*—December 17, 1867; antedated December 4, 1867.—



The sifter box is so connected to the receiver that it can occupy a position immediately over it, or may be run to its edge and tilted up for discharge of roots remaining after the dry peat has dropped through into the receiver. The roots are retained by vertical pins projecting upward from the grates. The sifter is actuated by a crank and pitman.

*Claim.*—The combination and arrangement of the carriage B, the main and supplementary grates D G, the series of pins e, mechanism for raising the supplementary grate on the pins and mechanism for imparting to the main and supplementary grates reciprocating longitudinal movements as set forth, these mechanisms being the lever I, the bar H, and the up-rights f, and the cranked shaft E and connecting rod F.

Also, the combination and arrangement of the whole and the peat receiver A, as set forth, the said peat receiver and the carriage B being connected by means substantially as explained.

**72,162.**—JAMES R. BRADLEY and MOSES D. BROWN, Chicago, Ill.—*Manufacture of Steel.*—December 17, 1867.—Improvement on the patent of James R. Bradley, April 15, 1862.—To the melted malleable iron are added salt, binocide of manganese, saltpeter, alum, charcoal, sal-ammoniac, and, when gray cast iron is used, add dry potash. To produce shear steel, with scrap or good malleable iron are melted potash, sal-ammoniac, manganese, charcoal, and sodium. The ingredients and proportions cannot be given in limited space for all varieties of steel.

*Claim.*—The improved processes for making steel of different kinds herein described, by mixing the several ingredients in the proportions and melting the same with malleable or scrap iron, as specified.

**72,163.**—ISAAC P. CADMAN, Mendota, Ill., assignor to himself and JAMES AIKEN, same place.—*Harvester Rake.*—December 17, 1867.—The rake is raised to pass over the platform on its return stroke by one of four projections on a cam, which, in the effective stroke of the rake, turns with it.

*Claim.*—So combining a circular reciprocating rake with the cam wheel, which gives it its rising and falling motion, that the rake shall move said wheel when it clears the platform, and without it when it returns for the next sweeping or clearing operation, substantially as described.

Also, in combination with the sweep rake the pivoted holding arm 4, acting in conjunction with it, as and for the purpose described.

**72,164.**—B. H. CAMP, Washington, D. C., assignor to himself and RUFUS PRENTICE.—*Device for Attaching Oversoles to Boots and Shoes.*—December 17, 1867.—The rubber sole has a toe piece covering the toe of the shoe, and a wire clip, whose claws engage the shank of the sole.

*Claim.*—In combination with the oversole a the corrugated elastic clasp b, when constructed, arranged, and operating in the manner herein described.

**72,165.**—THOMAS CHAMBERS, St. Louis, Mo.—*Hydraulic Elevator.*—December 17, 1867.—The elevator has a series of water chambers. By movement of a pump lever sufficient water is thrown into the proper chamber to cause the ear to ascend or descend. An indicator denotes the place of stoppage.

*Claim.*—First, the reservoir A<sup>2</sup>, the ear B, the chamber B<sup>1</sup>, the pump D, and the pipes D<sup>1</sup> and D<sup>2</sup>, when combined and arranged as described and set forth.

Second, the indicator c c<sup>1</sup> e<sup>2</sup> e<sup>3</sup> c<sup>4</sup>, when arranged in relation to the dumb waiter, as described.

Third, the brake attachment L l L', when constructed and arranged in relation to the elevator, as described and set forth.

Fourth, the self-tipping and unloading shelf b<sup>5</sup>, when combined with the elevating ear, as described and set forth.

**72,166.**—CHARLES J. CLEMENTS, New York, N. Y.—*Padlock.*—December 17, 1867.—The hinged guard plate acts in combination with the notched tumblers, to prevent their turning around for unlocking till their respective notches are brought opposite to the

said plate, which then swings into the notches and allows the bolt to be thrown.

*Claim.*—The guard plate B arranged and operating in combination with the tumblers a a, substantially as and for the purpose herein specified.

**72,167.**—ALVIN COLBURN, Lynn, and ELBRIDGE G. STANLEY, Fitchburg, assignors to ALVIN COLBURN and JOHN BADDIN, Lynn, Mass.—*Mechanism for Connecting a Horse with a Carriage.*—December 17, 1867.—The harness is connected by a spring pin to a spring rod on each thill.

*Claim.*—The arrangement of the connection bar case B with its bar C, and spring against the side instead of on the end of the shaft, the same rendering no reduction of the shaft necessary in the application of the invention thereto.

Also, the combination and arrangement of the spring bolt with the socket piece and the bar C, its case and spring, arranged with the shaft as set forth.

Also, the combination of the double eye piece F', having a tooth, as described, with the spring bolt, its case, and socket piece, to be used with the slide bar C, made and applied, or to be applied to a shaft, substantially as described.

**72,168.**—J. B. COLLIN, Altoona, Pa., assignor to himself and R. E. RICKER, same place.—*Lubricating Cup.*—December 17, 1867.—The pointed pin is attached to the screw cap, and, projecting through the small orifice of the oil tube, drops the oil clear of its sides.

*Claim.*—An oil cup having an adjustable tapering pin projecting through, but free from contact with the sides of an orifice communicating with and smaller than the discharge passage a, so as to form a regulating drip or guide for conveying the oil from the cup to the said passage, all substantially as described.

**72,169.**—GILBERT M. CONNER, Cohoes, N. Y.—*Water Wheel.*—December 17, 1867.—The water, on entering, has an upward and rotary motion, and has a direct action on the buckets on all sides. The buckets are so curved as to give a continued deflection to the water. The water is discharged horizontally from the top, and its discharge is limited by a vertically adjustable inclosing cylinder.

*Claim.*—First, the combination of the circular receiving chamber and the helical floor, or its equivalent, with the radial guide chutes, substantially as described.

Second, the combination of the central hub and its inclined and twisted buckets, with the conical wheel case, all constructed and operating substantially as described.

Third, the combination of the deflecting floats with the controlling rim, for the purpose specified, arranged and operating substantially as described.

**72,170.**—ROBERT CREUZBAUR, New York, N. Y.—*Boat Lowering Apparatus.*—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, davits which are hinged in such manner as to swing freely in vertical or nearly vertical planes toward and from the water, and to vibrate above and below a horizontal plane intersecting their axis of motion, substantially as described.

Second, the application of curved sections to the upper ends of davits which are hinged at their lower ends, so that said sections can be turned around, independently of the standards or lower sections of the davits, substantially as described.

Third, the application of a ladder to a davit, operating substantially as described.

Fourth, the combination of a folding hand rail and ladder to a hinged davit, operating substantially as described.

Fifth, boats' davits hinged substantially as described, when counterpoised by a force sufficient to raise them without the boat, but easily overcome by the weight of the boat.

**72,171.**—ROBERT CREUZBAUR, New York, N. Y.—*Boat Lowering Apparatus.*—December 17, 1867.—Mainly similar to the preceding, (No. 72,170.) Both of the davit ropes are wound upon drums on a single shaft having a friction brake. The drums have spline connection to the shaft, and turn upon fixed screws



sleeved upon the shaft, so that the drum has longitudinal movement, and the rope is drawn perpendicularly to the drum and coiled fairly. The hand wheel is secured to the shaft, and motion is communicated to the ratchet wheel by lugs upon both wheels, between which are rubber blocks interposed to prevent jar.

*Claim.*—First, the application of elastic cushions *t' t'* between the hand wheel, hub *Q*, and the ratchet wheel *U*, for the purpose and in the manner substantially as described.

Second, the longitudinally traveling drums *K* applied to the shaft *L*, substantially in the manner and for the purposes described.

Third, in combination with the pivoted ships' davits, the pivoted shield or guard *S*, constructed so as to keep the ropes *R* in place upon their pulleys during the raising and lowering of a boat, substantially as described.

Fourth, the combination of elastic pressure roller *h*<sup>1</sup> with the roller or pulley *h*, for preventing the slack of rope *R* from extending back to its drum *K*, substantially as described.

**72,172.**—ROBERT CREUZBAUR, New York, N. Y.—*Boat Detaching Apparatus.*—December 17, 1867.—The suspension tongues have side wings to insure the proper presentation of the hole to the catch bolt. The bolts are connected by a spring to the releasing rods, which have recesses in their ends containing eccentrics, by whose rotation they are simultaneously retracted.

*Claim.*—First, spring bolts *d d*, or their equivalents, constructed as described, and applied to sheaths, so as to catch and hold the suspension tongues *C C* when thrust into said sheath, substantially as described.

Second, the employment of eccentrics or cams *b b*, in combination with the rods *c c* and spring bolts *d d*, substantially as described.

Third, the feathered coupling tongues *C*, in combination with grooved and flaring sheaths, substantially as described.

Fourth, the attachment of the coupling tongues to springs or spring boxes, substantially as described.

**72,173.**—DANIEL A. DENISON, Troy, Mich.—*Corn Popper.*—December 17, 1867.—The gauze pan has a tin cover, and is strengthened by strips of iron.

*Claim.*—The arrangement and combination of the wire cloth pan *A* with the pieces of strap iron *B B* and the tin pan or cover *D*, all arranged substantially as described for the purpose designed.

**72,174.**—AGNES DOISY, Cincinnati, Ohio.—*Stick for Trundling Hoops.*—December 17, 1867.—The elastic cord is looped around the hoop to prevent it from running beyond control.

*Claim.*—The improved hoop stick *B*, provided with an elastic strap, tape, or cord *D*, fastened by one end to the stick *B* and being susceptible of being hooked or fastened by the other end to the said stick, in the manner and for the purpose set forth.

**72,175.**—H. C. DORMAN, North Bridgewater, Mass.—*Washing Machine.*—December 17, 1867.—The tub is attached to a stand, and receives horizontal oscillation therewith by a hand lever. The operative disk is attached to a cross-bar sliding vertically in slots of the frame, and rests on the clothes within the tub.

*Claim.*—First, the combination and arrangement of the wheels *W W'*, the tub *S*, the knob *K* with the springs *H H'*, substantially as described and for the purpose set forth.

Second, the holding disk *T*, when slotted at *V V'*, in combination with the reciprocating tub *S*, substantially as described and for the purpose set forth.

**72,176.**—E. D. DRAPER, Hopedale, and E. W. GLOVER, Medford, Mass.—*Fire-Proof Safe.*—December 17, 1867.—The tubes leading from the water jacket to the interior of the safe are sealed by a concavo-convex cap, attached with an alloy fusible below the temperature of boiling water.

*Claim.*—The concave cap *c*, in combination with the case *A* and the fusible metal sealing or solder *d*, of the kind described, such cap being arranged with the mouth of the case in the manner as set forth.

**72,177.**—CONSTANTINE DREXLER, Washington, D. C.—*Device for Securing and Feeding Soft Crabs.*—December 17, 1867.—The inclosure of pickets, with one-inch apertures between, is erected on the bank of a river, and crabs are placed therein, so as to be readily reached when in the soft-shelled state.

*Claim.*—A marine inclosure, constructed and arranged as shown, and provided with the guards or fenders *f* and the movable floats *g g h h*, or their equivalents, forming artificial hiding places, arranged as shown and for the purposes substantially as described.

**72,178.**—CHARLES S. DUNBACK, Swampscot, Mass.—*Rocker for Chairs or Cradles.*—December 17, 1867.—Explained by the claim.

*Claim.*—The arrangement of the guard or cushion *B* against or about the end of the rocker, in manner and for the purpose specified, meaning also to claim, as an improved manufacture, a rocker, as made with an elastic cushion applied to its rear end, as set forth.

**72,179.**—GILES F. FILLEY, St. Louis, Mo.—*Stove Back Plate.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The method of forming the draft-flue projection in the back plate of stoves with a curvature, in the manner substantially as shown and specified.

**72,180.**—WILLIAM FISKE, Lowell, Mass.—*Sewing Machine.*—December 17, 1867.—The table supporting the material has a feed motion by the means stated in the claims.

*Claim.*—First, the combination of a sewing machine with a movable table by means of cord *H* and pulley *I* and shaft *F*, worm and worm gears on shafts *E* and *F*, and cord *J J* with shaft *C*, substantially as herein set forth and described.

Second, the band *P* on pulleys *R* and *Q* with tightener *Q*<sup>2</sup>, Fig. 1, for transmitting power from shaft *E* to shaft *O*, substantially as set forth and for the purpose described.

Third, the shipper *M*, tightener *N*, belt *D*, shafts *E F*, and cord *H*, for the purpose herein set forth.

Fourth, the brake *S* on shipper *M*<sup>2</sup>, in connection with detent *T* and balance wheel *U*, as fully set forth and for the purposes described.

**72,181.**—VINCENT FOUNTAIN, Jr., Castleton, N. Y.—*Machine Belting.*—December 17, 1867.—A strip of metal is riveted to the back of the belt.

*Claim.*—Forming machine belting by combining leather with metal riveted thereto, as herein described.

**72,182.**—STEPHEN FOUNTAIN, Silver City, Nevada.—*Ore Concentrator and Amalgamator.*—December 17, 1867.—The central cone has a series of valves at different elevations which are operated by levers, and discharge into a box ending in a pipe, which discharges into a concentrator beneath.

*Claim.*—The box *D*, having the valve *b*, stems *n*, or an equivalent device, together with their operating levers *d* and the rods *g*, the whole constructed and arranged substantially as and for the purposes herein described.

**72,183.**—OSCAR C. FOX, Georgetown, D. C.—*Driven Well.*—December 17, 1867.—The lower portion of the tube is constructed of different layers of wire cloth varying in fineness, and the drill point attached to its lower end has a drip hole from its socket, the said hole being kept open with a roll of wire cloth. After driving, the outer tube is raised to expose the gauze.

*Claim.*—A well tube, constructed wholly of woven wire of different textures, as shown, combined and arranged with a drill point, having a drip through its body, all substantially as and for the purposes described.

**72,184.**—BARTHOLOMEW CLIFFORD GALVIN, New York, N. Y.—*Portable Switch.*—December 17, 1867.—One end of the ear-lifter is secured upon the rail, and the other end has a serrated plate resting on the ground.

*Claim.*—First, the single switch, constructed and arranged as described, with bar *D*, plate *E*, teeth *F*, clip of the rail *A A*, rail plate *G*, wheel guide *C*, and



leveling lug and casing L L, and vertical acting hinge H in bar D, as and for the purpose set forth.

Second, the double portable switch, when constructed with vertically-hinged arms A A attached to plate O, with frog F and movable arm S working in notches R, with movable and sliding side lugs L L and parts B and W, all constructed and combined as and for the purpose set forth.

Third, in the car-replacer or switch, above described, the three inclines, combined and constructed substantially as described and for the purposes set forth.

**72,185.**—BARTHOLOMEW CLIFFORD GALVIN, New York, N. Y.—*Railway Switch*.—December 17, 1867.—The switch track is laid over the fixed tracks to convey the cars from one to another.

*Claim.*—First, in railroad switches, as shown in sheet No. 1, Fig. 1, the construction and arrangement of fixed and movable rails with curved extremities, the movable rails and extremities being hinged to the fixed rails and the movable rails locking therein by the straight insertion self-connecting rail and joint shown in Figs. 2, 3, and 4, and by the dovetail joint in the ends of such rails, fixed and movable, all substantially as described, for the purpose set forth.

Second, in railroad switches, as shown in sheet No. 2, Fig. 5, the construction and arrangement of fixed rails, connected by curved extremities, and straight track crossers, made with hollow ends, all substantially as described, for the purpose set forth.

**72,186.**—THOMAS GARRICK, Providence, R. I.—*Twine Holder and Cutter*.—December 17, 1867; antedated December 11, 1867.—The bell-shaped holder contains spring clamping jaws formed of wire. The knife guard consists of a spiral wire.

*Claim.*—The combination of a cutting blade with a spiral convoluted shield, constructed substantially as and for the purpose specified.

Also, the spring clamp, in combination with the metallic shell for holding the ball of twine, substantially as specified.

**72,187.**—ELLIOTT P. GLEASON, New York, N. Y.—*Argand Burner*.—December 17, 1867.—The lower section of the burner has an orifice for the gas, which is more or less obstructed by the end of a screw which is either turned directly by hand, or when vertical and inclosed within the burner, is turned by a lever projecting through a slot therein.

*Claim.*—First, in argand burners, the regulating screw, for the purposes fully described.

Second, in combination with the same, the lever, for the purposes fully indicated.

**72,188.**—ELLIOTT P. GLEASON, New York, N. Y.—*Burner for Heating Gas, &c.*—December 17, 1867.—The gaseous liquid ascends the smaller tube and flows over its top into the annular chamber of the retort, from whose lower end the gas is carried to the annular burner outside the retort.

*Claim.*—The use or employment of the tube C within the tube A, in combination with the burner B, when the same shall be combined, constructed, and operated substantially as shown, for the purposes set forth.

**72,189.**—HENRY A. GOLL, Chicago, Ill.—*Pressure Safety Valve*.—December 17, 1867.—The cylinder is secured on a top plate of the boiler, and communicates therewith through the port of a valve opening downward and having a valve of larger upper area secured to its stem. The latter valve has a seat within the cylinder. A passage through the upper valve and valve stem unites the chambers above and below the valve. Upward pressure, from the end of a weighted lever, is communicated to the valve stem, sufficient to overbalance it and close the lower valve. A small safety valve admits steam into the upper portion of the cylinder and opens the lower valve for discharge of steam. The upper portion of the cylinder communicates through a pipe with the steam space in the boiler, and by opening a cock in the pipe the steam may be blown off.

*Claim.*—First, the combination of valves O N and H with cylinder G and pipe F, substantially as set forth.

Second, the valve H, arranged to operate in cylin-

der G, and having a shoulder on the top of it corresponding with the diameter of the valve seat T, in combination with said cylinder pipe F and valves O N, substantially as herein described.

Third, the combination of cock C, pipe E, double valve O N, and cylinder B, as and for the purpose set forth.

Fourth, the valve O, having the opening d in its stem for the escape of steam above said valve, in combination with a lower valve N, arranged to receive pressure directly from boiler A, as set forth.

**72,190.**—CHARLES P. GOERLY, Boston, Mass.—*Letter Box*.—December 17, 1867.—The cover of the box, which is intended for a private house and for location in a door jamb, is connected by wires and bell cranks to an alarm and remains at any elevation at which it is placed.

*Claim.*—First, the combination of the lid B and springs D D', in the manner and for the purpose described.

Second, the combination of the lid B, springs D D', catch e, and lever E, in the manner and for the purpose specified.

**72,191.**—LYMAN A. GOUGH, Yonkers, N. Y.—*Naphtha Burner*.—December 17, 1867.—The naphtha enters the retort, which has at its lower end an annular cup for reception of alcohol to heat the retort when igniting the lamp. After ignition the conical screw plug is turned downward to open communication between the retort and burner. The gas issues from the burner top on each side of the heat conductor, which descends to the opening between the retort and burner.

*Claim.*—The detachable conductor, in combination with a burner, constructed and operating substantially as described.

**72,192.**—VIRGIL D. GREEN, Watertown, Wis., assignor to himself and E. M. HALL, same place.—*Steam Safety Valve*.—December 17, 1867.—The spindle of the coiled spring has a ratchet wheel engaged by a pawl in the case, by which means the tension of the spring may be adjusted.

*Claim.*—The cylinder A, the drum B, the spring G, the ratchet and pawl D p, in combination with the cam m and the chain H, substantially as described.

**72,193.**—JOHN GREENWALD, Cincinnati, Ohio.—*Medical Compound*.—December 17, 1867.—A substitute for castor oil. Composed of compound extract of colocynth, 10 grains; dissolved in glycerine, 6 fluid drachms; to which is added flavoring sirup, 2 drachms.

*Claim.*—The compound, as specified, for the purposes set forth.

**72,194.**—EMILY S. GREFFET, St. Louis, Mo., administratrix of the estate of JOSEPH A. GREFFET, deceased.—*Reel Oven for Bakers*.—December 17, 1867.—The pans are hung to radial arms projecting from a rotating drum which deflects heat upon the top of the matters contained in the pans. Flues within the oven have dampers, by which the escape of heat to the chimney may be permitted.

*Claim.*—First, the combination of a drum with the revolving pans of an oven, when constructed and arranged substantially as shown and specified.

Second, the arrangement of the regulating flues p p' p'' p''' of an oven with their respective dampers and operating rods, when constructed and arranged substantially as shown and specified.

**72,195.**—WILLIAM HAILES, Albany, N. Y.—*Bail for Kettles*.—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—Constructing the metal sections B B with sockets formed within the enlargements b b of said sections, such sockets having the ends of a wooden handle fitted into them, and such handle being held in said sockets by a rod c which passes through the handle and through the enlargements b b, and is fastened to the latter, all substantially in the manner shown and described.

**72,196.**—JOHN HARDING, Warrington, England.—*Lock Fastener for Lamps*.—December 17, 1867.—The hasp of the safety lamp is secured upon the sta-



ple by a key of soft metal, which is sealed on insertion, so that the lamp cannot be surreptitiously opened without exposure.

*Claim.*—The application, employment, and use of a soft-metal or other rivet, or other compressible plug, as a fastening for safety lamps, instead of locks, screws, or other mechanical contrivances now employed.

**72,197.**—JESSE H. HARLAN and THOMAS POMEROY, Denver City, Col., assignors to themselves and WILLIAM H. HARLAN.—*Machine for Cutting-out Gloves*.—December 17, 1867.—The platen has two parallel knives attached thereto, and a third one at right angles to them and attached to them at its extremities. The former knives are as long as the longest glove, and the third knife twice as long as the breadth. Between the outer parallel knives are knives the length of the fingers, connected by semi-circular knives. The thumb aperture is cut out by a suitable heart-shaped knife. The various parts are adjustable to form gloves of different sizes.

*Claim.*—The adjustable knives of a glove cutter, when constructed and arranged substantially as shown and specified.

**72,198.**—H. A. M. HARRIS, Philadelphia, Pa.—*Harvester Rake*.—December 17, 1867.—The rake arm is hinged to the rotating tubular reel shaft, so as to allow the arm a radial motion. This motion is caused by a weighted crank arm attached to a rock shaft extending axially through the reel shaft, and having a crank arm connected by a gimbal-jointed link to the rake arm. The actuating crank of the reel shaft has a spring catch, thrown out by a cam to engage the weighted arm and carry it around to a certain elevation to give the radial motion to the rake arm, which, combined with its revolving motion, keeps it in contact with the platform. The rake head has an oscillating motion given to it by a cam to keep the teeth vertical.

*Claim.*—First, the combination, as described, of the rake arm with the guide F', both rotating on a common axis.

Second, the combination, substantially as described, of the beater arms, revolving in a fixed relation to a common axis, with the rake, having a rotating, a circumferential, and an axial movement around said axis.

Third, the combination, substantially as described, of a stationary collar to support the raking mechanism, a tubular axle revolving within said collar and carrying rake and reel arms, and a counterbalance rock shaft turning axially within said axle to regulate the movement of the rake.

**72,199.**—H. A. M. HARRIS, Philadelphia, Pa.—*Harvester Rake*.—December 17, 1867.—Mainly similar to the preceding, (No. 72,198.)

*Claim.*—First, the combination, substantially as described, of a rake rotating on a tubular axis with a crank shaft, link, and counterbalance to hold the rake down when raking off, to lift it quickly at the end of its backward movement, and to draw it inward when passing forward.

Second, the combination, substantially in the manner described, of a continuously-revolving rake with a counterbalance and latching and unlatching device.

Third, the combination, substantially as described, of a continuously revolving rake, (having a pivotal movement in its support,) with a cam and compound lever, for the purposes both of turning the rake axially and of holding it in a line radial with its axis while raking off, as set forth.

**72,200.**—A. HILLMAN, Devonshire, England, assignor to THOMAS R. and SAMUEL S. FULLER and JAMES S. McMURRAY.—*Car Coupling*.—December 17, 1867.—The coupling is additional, is connected to the draw bar and placed beneath the usual coupling. The coupling bar has a shoulder to hold down the end of the coupling link and keep it horizontal, and a spring prevents the accidental raising of the link from jarring of the cars. The coupling bar is pivoted to the uncoupling rod, which is operated by a lever.

*Claim.*—First, the coupling boxes D, constructed as described, and secured to the draft bar or bars C by the flange d' and braces E, substantially as and for the purpose herein set forth.

Second, the coupling link K, constructed as herein shown and described, and having two downwardly-projecting pins k' attached to its lower side, in combination with the coupling box, having perforations for the reception of the pins k' of the link K, substantially as and for the purpose herein set forth.

Third, the combination of the slotted wedge-shaped adjusting block L with the coupling link K, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination and arrangement of the coupling box D, spring J, pivoted coupling bar G, uncoupling rod H, and lever handles I with each other and with the draft bar C, substantially as herein shown and described and for the purpose set forth.

**72,201.**—H. GENGEMBRE HABERT, New York, N. Y.—*Furnace for Smelting Precious Metals*.—December 17, 1867.—The ore, mingled with the flux, is fed into the cupola furnace through radial boxes having outer plungers operated by screws. The ore is fed to the reverberatory furnace through a box, and the plunger is actuated by a hydraulic press.

*Claim.*—First, the combination of the boxes D D' D'' D''', &c., the piston E E' E'', &c., and screws f' f' f', &c., or their equivalents, with a cupola or blast furnace A, the whole arranged and operating in the manner set forth.

Second, in blast and cupola furnaces making the lining of a composition of ore and flux, and renewing said lining from the outside by means and with the arrangement herein described.

Third, the combination of the box M or M', the piston N or N', and press P or P', with a reverberatory furnace, arranged and operating in the manner specified.

Fourth, forming the hearth of a reverberatory furnace of a concrete of ore and flux, and renewing the same from the outside, without stopping the operation of the furnace, by means and with the use of the herein described arrangement.

**72,202.**—F. A. HUNTINGTON, San Francisco, Cal.—*Spring Bed Bottom*.—December 17, 1867.—The cross strips supporting the bed are sustained on rounded disks beneath the intersections. The disks are supported on standards resting on rubber loops.

*Claim.*—The standard A, with caps or tops a, and the elastic bands or springs B, arranged and attached to frames or bars, substantially as and for the purposes herein described.

**72,203.**—MARTIN G. IMBACH, Hartford, Conn., assignor to JAMES L. HOWARD, same place.—*Railroad Car Ventilator*.—December 17, 1867.—The ventilating aperture has a canopy, which may be turned to present the mouth in either direction. The canopy is operated by a lever within the car, the lever having an angular projection engaged by a jumper pawl to hold the canopy to its adjustment.

*Claim.*—The combination of a reversible deflector, with a spring for moving the same, substantially as before set forth.

**72,204.**—OLIVER A. KELLY, Slatersville, R. I., assignor to LAMB, COOK & CO., Forrestville, R. I.—*Steam Engine Governor*.—December 17, 1867.—The valve stem passes axially through the spindle, and is formed of two pieces, which are screwed together. The upper section is connected with the balls, and from the lower one the valve is suspended. The upper portion of the stem has a collar having pins projecting upward and downward, which, by the vertical movement of the stem, caused by the governor balls, are brought to engage lugs on bevel wheels above or below the collar. The bevel wheels cause opposite rotation to the upper section of the stem, and consequent vertical adjustment of the lower section by means of the connecting screw.

*Claim.*—First, the valve M, constructed as described, with the triangular recesses b b and downward projecting pin h, arranged in relation with the pin i and screw-valve rod L, as herein described for the purpose specified.

Second, the arrangement of the valve M, pins h i, valve rod L, sliding rod K, and pins j k, as herein described for the purpose specified.



**72,205.**—WILLIAM CHASE KNIGHT, Yankee Jim's, Cal.—*Apparatus for Saving Precious Metals.*—December 17, 1867.—The trough has a vertical longitudinal partition, beneath which the water from the sluice passes, and the metal is deposited in the trough, the deposition being assisted by a rib on the trough side.

*Claim.*—The V-shaped apparatus, with an adjustable partition B, substantially as and for the purpose described.

**72,206.**—G. F. KOLB, Philadelphia, Pa.—*Jewel Case.*—December 17, 1867.—The two portions of the case are connected by links, so that the box may be swung over the lid and serve to hold the jewelry at an inclination for display.

*Claim.*—The within-described jewel case, composed of the lower portion A and the upper portion A', hinged together by a double hinge, the whole being constructed and operating substantially as and for the purpose herein set forth.

**72,207.**—E. C. LITTLE and JAMES W. BELL, St. Louis, Mo.—*Summer Furnace.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The construction of charcoal furnace, having a hinged plate *d* at the back thereof, which shutting off the draft from beneath causes it to pass up through the basket.

**72,208.**—RUFUS LITTLE and LEWIS GIBBS, Canton, Ohio, assignors to themselves and JOHN R. BUCHER, same place.—*Harvester Rake.*—December 17, 1867.—A pair of plates is hung to the rocking shaft, which is operated from the main frame either by the driver or automatically. The plates are so arranged that when one is down the other is up, and the front one shall hold the falling grain while the rear one is delivering the gavel. The grain is delivered by the rake outside the track of the machine in the next "round."

*Claim.*—First, the dropper, composed of two blades that are moved in contrary directions by the rocking of a shaft, and which alternately hold and deliver the grain that has fallen against them, substantially in the manner described.

Second, the rake in combination with the hinged runners or frame, and which moves back and forth on said hinged runners or frame, conforming to the undulations of the ground, to rake the grain upon the ground out of the way and into a gavel for binding, substantially as described.

**72,209.**—JOHN C. LOVE, Philadelphia, Pa., assignor by mesne assignments to W. H. LOVE, same place, R. H. CHILDS and W. A. CHILDS.—*Lamp Burner.*—December 17, 1867.—The flat top of the slotted plate is over the cone, and it has a depending cylinder with an annular perforated flange, whose periphery is curved downward to rest on the case, and which gives support to the lower edge of the cylindrical chimney.

*Claim.*—The plate *d*, with its flange *i* and opening *w*, in combination with the casing A of a lamp burner, when the edges of the said opening *w* are parallel to the upper edge of the wick tube, for the purpose specified.

**72,210.**—WILLIAM P. LUPTON and C. M. TALBOT, Cadiz, Ohio.—*Registering Yard Stick.*—December 17, 1867.—The operator registers each yard measured by pressing a knob projecting from the side of the stick. The number of the tally is indicated by figures showing through an aperture in the back of the yard stick.

*Claim.*—First, the sliding graduated plate D, in combination with a yard stick, substantially as and for the purpose described.

Second, the combination of the sliding graduated plate D with the knob *k*, rod *i*, ratchet *r* and spring *g*, substantially as and for the purpose specified.

Third, the combination of lever *l*, ratchet *r*, rod *i*, pin *e*, and pin *o*, for the purpose of disconnecting the actuating rod and ratchet and replacing the plate D, substantially as described.

**72,211.**—C. C. LYMAN, Edinboro, Pa.—*Animal Trap.*—December 17, 1867.—The rectangular frame has a box with a sliding cover, having pitman con-

nection with a crank on a shaft, upon which is a grooved roller, on which a weighted cord is coiled. The bait is attached by a cord to one end of the tripping lever, which when drawn up depresses the catch and allows the sliding top to be drawn from under the rat, and again to slide over the box by the rotation of the crank shaft. The catch again rising arrests the sliding top in that position.

*Claim.*—First, the arrangement of the lever M, spring check J, in combination with the slide C and box A, for the purpose and in the manner substantially as set forth.

Second, the lever M, spring check J, as arranged in combination with the slide C, and operated in the manner as and for the purpose described.

Third, the arrangement of the block S, strip S', in combination with the spring check J, in the manner as and for the purpose set forth.

**72,212.**—DAVID MANUEL, Boston, Mass., assignor to himself and WILLARD MANUEL, same place.—*Stove-pipe Damper.*—December 17, 1867.—The outer portion of the damper consists of a double series of curved radial plates; the plates in one course standing vertically opposite to the apertures in the other.

*Claim.*—A stove-pipe damper formed of two flat cast-iron disks A A, united solidly in the middle, and interlocked by loops *b b*, upon the suspension rod *a*, with concave radiating edges *c c*, arranged and operating as herein described.

**72,213.**—JOHN M. MAY, Janesville, Wis.—*Gate.*—December 17, 1867.—The gate slides longitudinally on anti-friction rollers and is operated either from the ground or by an elevated lever, operating on the pendulous lever, whose longer arm is connected by a rod to the gate and serves to slide it open or shut. The mechanism is so connected to the pivoted latch that the latter is disengaged simultaneously with the movement of the gate.

*Claim.*—First, pendulum lever M and bar N, operated by suitable mechanism, and combined with a gate that is moved longitudinally in opening and closing, substantially as described.

Second, a gate latch, combined with rod L, or its equivalent, when both are so constructed and connected together that the latch may be operated by hand or from a carriage, substantially as and for the purposes described.

Third, pendent rods S S, levers R R, connecting bars P P, arm O, pendulum lever M, and bar N, when connected together and combined with a gate that is moved longitudinally in opening and closing, substantially as and for the purposes described.

**72,214.**—ROBERT MAYNARD, Cambridge, and JABEZ JAMES PURKISS, London, England.—*Hair-cutting Machine.*—December 17, 1867.—The rotary cutters are secured to a drum and operate in combination with a fixed blade. The hair is held by two automatic adjustable combs.

*Claim.*—First, the employment of one or more revolving knives I, in combination with a fixed knife A, for the purpose specified.

Second, the employment, in combination with the knives A I of the comb M, for the purpose specified.

Third, the employment of the inner comb M, in combination with the outer comb H, the latter of which is made adjustable for the purpose specified.

Fourth, adjusting the comb H by means of the rack L springs N and pawl O, or equivalent devices.

**72,215.**—JAMES S. McCLELLAND, Crawfordsville, Ind.—*Apparatus for Treating Fractures and Displacements.*—December 17, 1867.—The board is attached to the extensible foot block and to the thigh splints. The upper end of the board has metallic hooks for engagement to the thigh bandages and connected to the said board by elastic rubber rings.

*Claim.*—The device of a fracture-adjusting apparatus herein described, consisting of the use of rubber counter-extension C C', Fig. 1, extension screw E, board H with cross-bar A, the peculiar shape and design of thigh splint, (Fig. 2 A,) A A', and (Fig. 2 B,) B B', substantially as herein set forth.

**72,216.**—GEORGE MILLER, Melbourne, Victoria, administrator of the estate of JAMES F. McKENZIE, deceased.—*Steam Generator.*—December 17, 1867.—



The thermostadt consists of a spindle around which are coiled iron and brass strips, the turning of the spindle caused by the expansion and contraction of the metal operating a valve in the water-supply tube. The pressure of steam in a chamber operates on a stem, connected to the flue damper.

*Claim.*—First, the generating and superheating tube B, constructed as described in sections, the points of connection of each section provided with an inner disk, having a central opening, as herein set forth.

Second, the tubes B, constructed as described, in combination with the thermostadt, one or more, and arranged in the furnace, as herein set forth and represented.

**72,217.**—EDMUND MEREDITH, Philadelphia, Pa., assignor to himself and J. S. SELLERS, same place.—*Dry Gas Meter.*—December 17, 1867.—The connections between the rotary disk and its carrier are so constructed that when the current of gas is reversed, the carrier will override the rotary disk so as to press it down upon its seat and arrest the motion of both, and thus prevent the disk from being lifted up by the gas to allow the latter to pass out.

*Claim.*—The application of the inclined planes  $c''$ , either to the carrier C or to the rotary disk B, so as to operate substantially as and for the purpose described.

**72,218.**—JOSEPH W. MOORE, Cambridgeport, Mass.—*Slotting Machine.*—December 17, 1867.—The frame is secured to the table of a planing machine and the vertical bar hinged to the mandrel is clamped in the tool holder of the head stock. The section of coupling, or the wheel to be key-seated, is clamped to the vertical plate of the frame and the key seat cut by reciprocation of the table, the mandrel which carries the tool remaining stationary and sliding in the guide ring whose trunnions have bearing in the vertically adjustable frame sliding in the standards.

*Claim.*—The combination of mechanism as described, for the purpose set forth, and for the object specified.

**72,219.**—GEORGE NEILSON, Boston, Mass.—*Lamp.*—December 17, 1867.—The dome is hinged to its annular supporting disk which is insulated from the chimney by a strip of non-conducting material. The chimney rest is frusto-conical in form and has radial corrugations allowing air to pass to the flame.

*Claim.*—First, the combination in a burner such as described, with the elevated dome-supporting disk of a dome or deflector, hinged to said disk, substantially as and for the purposes set forth.

Second, the combination with the dome or deflector and the arm projecting from its base of the dome-supporting disk, and slot formed in the same for receiving and holding said arm, substantially in the manner and for the purposes set forth.

Third, the combination with the dome-supporting disk, of a ring of leather or other suitable material, which is a non-conductor of heat, secured upon the periphery of said disk, substantially as and for the purposes set forth.

Fourth, the base or chimney rest, constructed substantially as herein described, that is to say, provided with a series of radial corrugations, which, when the chimney is in place, allow the external air to pass into the burner between the base of the chimney and the said rest, substantially as set forth.

Fifth, the combination of the radially corrugated base or chimney rest with the dome-supporting disk, and dome or deflector hinged to said disk, under the arrangement and for operation as set forth.

**72,220.**—JOHN NORTH, New York, N. Y.—*Brick Machine.*—December 17, 1867.—The mold wheel is supported by the inner part of its rim which runs upon anti-friction rollers. The clay is forced into the molds by a follower reciprocating beneath the hopper. A scraper, as the wheel turns, removes the loose clay, and returns it to the hopper. The molds are removable from the wheel for repairs or substitution.

*Claim.*—First, a mold wheel or frame, made of angular or ring-shape, and suspended upon rollers, substantially as and for the purpose described.

Second, the combination of the mold wheel or frame

K, arranged to have an intermittent rotary motion, with the follower Z, or its equivalent, within the feed hopper X and box Y, when such follower is arranged for operation with regard to the mold wheel, substantially as and for the purpose described.

Third, the combination with a mold wheel or frame K, arranged to have an intermittent rotary motion, of the frame  $B^2$ , so disposed and arranged about such wheel as to exert a pressure upon the clay within its molds, substantially as and for the purpose specified.

Fourth, the mold wheel or frame K, arranged to have an intermittent rotary motion, the stems  $M^2$ , the presser frame  $B^2$ , and the molds O O O O, so combined and arranged as to operate simultaneously, substantially as and for the purposes set forth.

Fifth, so arranging the endless belt or apron, in combination with the stationary clearer board  $W^2$  and brush  $V^2$ , rocker-shaft arm I and pawl lever  $V^2$ , when operated on the gear z, causing an intermittent rotary motion, substantially as and for the purposes described.

Sixth, the brushes  $X^2$  and  $B^3$ , in combination with a mold wheel, arranged to have an intermittent rotary motion, when such brushes are disposed for operation upon the said wheel and are only revolved or actuated when the wheel is in motion, substantially as described for the purposes specified.

**72,221.**—GEORGE NOYES, Pownal, Me., assignor to ANDREW LEIGHTON and M. L. WHITNEY.—*Hay Press.*—December 17, 1867.—The apertures left in the trunk for passage of the toggle arms are closed by doors hinged to the trunk at their upper edges, and having a roller coming in contact with the arm by which they are raised more or less, except when the arm is horizontal and in position for filling the press. These doors are closed by rectangular levers, one arm of which impinges against the door while the other is depressed by the descending follower. When the bale has been pressed vertically its ends are somewhat compressed by a moving end, operated by cams and levers.

*Claim.*—First, the combination of the springs 4 and levers r, as and for the specified purposes.

Second, the combination of the ears u, springs 4, and levers r, as and for the specified purposes.

Third, the adjustable doors m with trucks o, as and for the purposes described.

Fourth, the combination of the clamps or cams x z, levers y and 2, and lever 3, all as and for the purposes described.

**72,222.**—CLARK OSGOOD, Cape Elizabeth, Me., assignor to himself and FREDERICK A. PRINCE.—*Railroad Rail.*—December 17, 1867.—The base and cap are grooved together, and the sections of the cap are connected by dowel pintles.

*Claim.*—The rail, composed of the support A and cap rail C, when the two parts are placed together as shown by 1 2, and when the several cap rails are also united by the horizontal pintle d, substantially as and for the purposes described.

**72,223.**—W. W. OWEN and DANIEL KELLY, Muskegon, Mich.—*Nutmeg Grater.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The nutmeg grater, constructed as described, consisting of the T-shaped tube A, whose short section is at right angles with the longer section, and has upon one end the flat circular box G placed parallel with the longer tube and containing the revolving grater wheel F, said short tube receiving the plate B, spring and rod D, all arranged and operating as herein shown and described.

**72,224.**—JOHN S. PALMER, Providence, R. I.—*Manufacture of Jewelry.*—December 17, 1867; antedated December 11, 1867.—The filling is stamped into form and the shell applied over it and lining placed beneath it. After melting of the solder the design is stamped or rolled in upon the face.

*Claim.*—First, forming the raised metal shell merely of the general outline of the shape in which it is finally to be produced, substantially as and for the purpose specified.

Second, forming the alloy filling of a shape to fit the interior of the said shell, in one piece or shape, substantially as and for the purpose specified.



Third, reducing the said outline shell and the filling, after the same have been united into one piece, as described, to its perfect finished shape, and ornamenting the same by rolling or other suitable means, substantially in the manner described.

**72,225.**—ROBERT PARKS, Philadelphia, Pa., assignor to E. J. SPANGLER, same place.—*Machine for Folding Envelopes.*—December 17, 1867.—The envelope is placed upon the plate, its position in respect to the blade being determined by the adjustable guiding plates. The several folding parts being in position, the driving shaft is turned. The descending blade turns the flap by thrusting it through the slot, and the fold is completed by the rollers. The envelope is carried down by the blade and behind the rods until it rests with its edge on the receiver.

*Claim.*—First, the blade F, the recessed or grooved block J, rods *h*, and receiver D, the whole being combined and arranged for joint action, substantially as and for the purpose herein set forth.

Second, the sliding bar E, its blade F, and plate *d* with curved slot *d'*, in combination with the crank M, the whole being arranged and operated substantially as and for the purpose described.

**72,226.**—O. R. PARMELE, Aurora, Ill.—*Stake Holder in Cars.*—December 17, 1867.—The stake is detachable from the socket, or may be folded down therewith. The formation is shown in the illustration.

*Claim.*—The socket or stake holder, constructed with the right-angular slots I and notches L H, in combination with the pins E F, in the lower end of the stake, substantially as and for the purpose described.

**72,227.**—CHARLES B. PETTENGILL, Hebron, Me., assignor to FREEMAN C. MERRILL, Paris, Me.—*Cultivator.*—December 17, 1867.—The side bars are hinged in front and are expandible. The fore end of the frame has a curved beam giving support to a wheel. A longitudinal ground bar runs backward from the front plow.

*Claim.*—First, the circular draw beam A, having the wheel straps *a*<sup>1</sup>, draft bars *a*<sup>2</sup>, socket *a*<sup>3</sup>, and ears *a*<sup>4</sup> cast solid therewith, substantially as herein shown and described.

Second, the combination of the bent adjusting rod E with the front tooth E and with the central beam C of the cultivator frame, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the ring bolt I, curved adjusting bars H, and beams C and D with each other, substantially as herein shown and described and for the purpose set forth.

Fourth, the combination of the bent adjusting rods E, circular draw beam A, and teeth E K L of different lengths with each other and with the beams C and D of the cultivator frame, substantially as herein shown and described and for the purpose set forth.

**72,228.**—ALFRED S. PHILLIPS, Boston, Mass.—*Skirt Ironing Table.*—December 17, 1867.—Two of the legs are separable to admit of placing the skirt over the end of the board. A metallic grate at one end receives the iron.

*Claim.*—The skirt ironing table, as composed of the top or board, the pair of legs hinged thereto, and the pair of separable legs and the dovetailed connections, as described for connecting the separable legs to the board or top, in manner as specified.

**72,229.**—C. R. RAND, St. Louis, Mo.—*Heating Furnace.*—December 17, 1867.—The smoke passes through side openings in the domed top of the furnace and descends through flues to the base, from whence it passes to the chimney. The air enters apertures beneath the sides of the hearth plate, and covered by shutters when desired, and passes up passages at each side of the smoke flues; from thence it descends through perforations of a domed plate above the grate top, and passing down through the annular space behind and beside the grate, has exit through holes beneath the hearth plate.

*Claim.*—First, the shaker grate C, provided with the points *a* and pivot *b*, arranged to rest upon the grate A, and operate substantially as described and for the purpose set forth.

Second, the smoke flues *l m n* and air flues *a'*, in connection with the hot and cold air chambers, and the dampers *i j* and *r*, and pipes *p*, when arranged to operate substantially as described.

Third, the water vessel W, in connection with the crane S, when arranged to operate substantially as described.

Fourth, the ash pan M, with its sliding bottom N, in connection with the pipe O, when arranged to operate as shown and described.

Fifth, the openings R V *t* for obtaining access to the chimney, and the opening Z in the hearth plate, in connection with the opening in the partition J, with their movable covers, when arranged as described and for the purposes set forth.

Sixth, the half conical form of fire-place, with the globe top, having the divisions therein for the air flues as shown, as well as the arrangement for dividing the smoke, with the shutter E, provided with the door *g*, and damper *h*, when arranged as described and for the purposes set forth.

**72,230.**—BENJAMIN ROBINSON, Boston, Mass.—*Machine for Making Nails.*—December 17, 1867; antedated December 5, 1867.—The blanks are punched out, in place of being cut. The punches are placed upon the head, and the dies in the bed of the machine. Each die is made in two pieces, and secured by screws to the bed piece.

*Claim.*—First, in combination with a feeding device, so arranged as to feed the forward edge of the nail sheet past the foremost edge of the upper die, by the width of one nail, at each stroke of the cutter head, and a pressure bar Z, slotted as shown, the arrangement of the male dies C and female dies K, placed in transverse series, heads to points, substantially as and for the purpose described.

Second, the arrangement of lever W, spring U, standard V, and nut X, in combination with the journal of roll N, as and for the purpose described.

Third, the arrangement of female dies K K, made in halves, in cross bars J, as held by bolts L, and adjusted by set screws E and F, as and for the purposes described.

Fourth, the arrangement of levers S S<sup>2</sup>, connecting rods R R<sup>2</sup>, substantially as and for the purpose described.

**72,231.**—THOMAS J. ROWLEY and WILLIAM POLAND, Chillicothe, Ohio.—*Locomotive Links for Trucks.*—December 17, 1867.—The link consists of a single bar on which the box slides, and this bar is connected to a stiffening bar, which is connected to the tumbling shaft.

*Claim.*—The link or radius bar A, combined with the slide box B and the stiffening bar C, constructed as and for the purpose herein described.

**72,232.**—GEORGE W. SHADE, Shippensburg, Pa.—*Horse Hay Fork.*—December 17, 1867.—The claw tines are pivoted to a cross bar, in which the hoisting rod is mortised. The upper ends of the tines are connected by toggle levers, whose middle piece slides on the hoisting rod, and is held down when the load is engaged by a catch lever, which is detached by a cord. The middle piece is raised by a spiral spring.

*Claim.*—A hay fork, constructed in the manner substantially as described, with one or more pairs of prongs, in combination with bars B B', toggle joints *a*, spring C, handle D, and trip catch E, all operating in the manner as and for the purpose set forth.

**72,233.**—FREDERICK G. SIMMONS, Lansingburg, N. Y.—*Wheel for Wagons and Carriages.*—December 17, 1867.—The inner ends of the spokes rest in recesses of the two socket cylinders, one of which is fixed to the hub, and the other is pressed in by a nut on the hub. The collars are widely separated, so as to act as braces.

*Claim.*—First, the employment of the socket cylinders C and D, one cast on the hub A, the other disconnected therefrom and working freely thereon, and in combination with the said hub A, substantially as herein described and set forth.

Second, in a wagon hub, the socket cylinders C and D, the hub A and the nut or cap B, constructed and arranged in the manner and for the purposes substantially as herein fully described and set forth.



**72,234.**—SAMUEL W. SINE, Easton, Pa.—*Inhal- ing Tube*.—December 17, 1867.—The valves are so ar- ranged that when the cock is open inhalation is per- mitted from the bag and exhalation through the tubu- lar plug to the outer air.

*Claim.*—First, the metallic valves D and E, the dia- phragm *e*, stop *e*, and the spring *d*, in combination with an inhaling tube, substantially as and for the purposes described.

Second, a metallic valve, either with or without a stop and spring, in combination with an inhaling tube, substantially as described.

**72,235.**—GEORGE SMITH, Cumberland, R. I.—*Let-off Motion for Looms*.—December 17, 1867; ante- dated December 11, 1867.—The whip roller is con- nected to a horizontal lever, to the back end of which a weight is hung to give proper tension. To the other end of the lever is hung the rod to which the tappet bar is connected. The warp roller is geared to a ratchet wheel which is held by a detent pawl, which forms one arm of a tri armed lever, another arm hav- ing a projection preventing the escape of more than one ratchet tooth at a time. The third arm of this lever is acted on by the tappet bar, when depressed by increased tension of the warp, and allows the es- cape of one tooth, as stated, the tappet bar being moved backward with each movement of the batten. The batten frame is connected to a cam lever, which binds the pendent rod of the whip roller and prevents the movement of the same when the tension is in- creased by beating up, which increase of tension would otherwise cause unwinding of the warp.

*Claim.*—The combination of the mechanism for controlling the letting-off warps, as described, with a binder or break, for rigidly confining and holding the whip roller in its latest position at the moment that the lathe beats up the filling, substantially in the manner described.

**72,236.**—HARMON L. SMITH, Watkins, N. Y.—*Corn Harvester*.—December 17, 1867.—The corn is forced by the reels against the reciprocating knives, and falls on the tilting platform.

*Claim.*—First, the combination of the hand lever D with the platform A and thills C, without interme- diate parts, so arranged that the platform is tilted by simply raising the lever, as herein set forth.

Second, the arrangement with the tilting platform of the parts constituting the gearing operating the knives I and reels M, the same consisting of the gears 1 2 3 4, the shafts H H', with the collars *g g'*, operated by levers K K', and the pulleys and bands *k k i*, the whole constructed and operating in the manner and for the purpose specified.

**72,237.**—THOMAS SMITH, Brooklyn, N. Y.—*Trunk*.—December 17, 1867.—The tray has a hinged bottom, and may be removed from the inside and se- cured to the cleats on the lid of the trunk.

*Claim.*—First, the tray B of a trunk, when pro- vided with a hinged bottom *b*, substantially as and for the purpose herein shown and described.

Second, so arranging a trunk A and its tray B that the latter can be seenred in an inverted position upon the cover of the trunk, by means of straps or other- wise, substantially as herein shown and described, so as to form a separate compartment upon the trunk, as set forth.

**72,238.**—GEORGE H. SPAULDING, Rockford, Ill.—*Harvester*.—December 17, 1867.—The apron is formed of overlapping slats attached to two belts. The grain is carried to the receptacle in convenient position for the binder.

*Claim.*—First, the receiving box R, located between the driving wheel and the first guard finger, substan- tially as and for the purpose herein shown.

Second, the location of the foot boards *f f'* on each side of the receptacle R, which permits the binder to face the receptacle, substantially as set forth.

Third, the raised foot board *f'*, which admits the grain beneath it, substantially as and for the object specified.

Fourth, the delivery of the grain into the receptacle at its bottom or base, substantially as and for the pur- pose set forth.

Fifth, the employment of metallic strips S S S and

belts *b b*, as apron or carrier, substantially as and for the purpose herein shown.

Sixth, the seenring of the said metallic strips S S S at their forward edges, substantially as herein shown, so that in passing over the roller they will assume a vertical position and thrust the grain into the recept- acle, all as set forth.

Seventh, the employment of a receptacle R for the grain, which admits of the binding of the bundles upon the loose grain in it without removing the bundle till completed, substantially as and for the purpose hereinbefore mentioned.

**72,239.**—JAMES SULLIVAN, South Boston, Mass.—*Marine Engine Governor*.—December 17, 1867.—The object is to prevent racing of the engine when one of the paddle wheels is raised from the water. A steam valve in the induction pipe is connected to the side arm of a weighted pendulous rod. The side movement of the latter in rolling of the vessel limits the supply of steam.

*Claim.*—The arrangement of valve B, lever E, weight I, and counter-weight K, operating substan- tially as and for the purpose described.

**72,240.**—HENRY TAYLOR and JOSEPH M. COALE, Baltimore, Md.—*Steam Generator Safety Valve*.—December 17, 1867.—The upper valve is closed by pressure of steam beneath it, and this steam space is in communication with the space beneath the lower valve, so that the escape of steam at the latter valve removes the pressure from the upper valve and allows it to open, the steam discharging by both valves.

*Claim.*—First, the combination of the weight and valve, when connected by a flexible joint, substan- tially as and for the purpose described.

Second, in combination with the closed self-acting safety valve, the valve J, which is held shut by the steam in the boiler when at or below its regulated pressure, and opened by the steam in the boiler when its pressure rises above that which it is designed to carry, substantially as described.

Third, in combination with the passages H, the pro- jecting top piece L, to prevent said passages from be- ing stopped up, but at the same time allow the steam to escape through them when blown off through the safety-valve, as described.

Fourth, The combination of the crank shaft and lifter with the weight D and valve C, so that the atten- dant can at any time open the safety valve and allow the steam from the boiler to pass through, but cannot close said valve to prevent the escape of steam when its pressure exceeds that for which the safety valve is computed, as set forth.

**72,241.**—ISAAC P. TICE, New York, N. Y.—*Still*.—December 17, 1867.—The still is charged through a pipe, which passes through the top and extends to nearly the bottom of the same. The end of this pipe has a perforated bulb to prevent the pas- sage of a pipe introduced from above and extending from the vapor space in the still. The overflow pipe from the doubler and the main pipe from the still to the doubler have each a valve, and these valves are connected by a rod, so as to allow the overflow to take place when the vapor passes into the doubler.

*Claim.*—First, the arrangement of the filling and discharging orifice of a still below the surface of the wash, for the purposes herein described.

Second, the valve opening inward upon the main pipe.

Third, the valve attached to the overflow pipe in such a manner as to be opened when the still is op- erating, and closed when it is not working.

Fourth, connecting the two valves *c* and *d*, so that they will act simultaneously, as herein described.

Fifth, the combination of these valves with the still and its necessary working apparatus.

Sixth, enclosing the collapse and blow-off valves of a still, and connecting them, by means of a pipe, with the doubler, worm, or any other part of the enclosed circuit.

**72,242.**—JOHN P. TROXELL, Hancock, Md.—*Stove for Heating Sad Irons*.—December 17, 1867.—The flat irons are inserted endways into the rectangu- lar recesses in the stove top, the slots in the top plate allowing the passage of the handles.

*Claim.*—First, the horizontal recesses M in the top



part of the stove, provided with slots O, formed by the partitions N, and the chamber E at the sides and rear of the recesses M, substantially as and for the purposes described.

Second, the chamber E, formed as described, connecting with the fireplace by means of the openings D, and provided with holes P for cooking purposes, in combination with the recesses M, substantially as and for the purposes described.

**72,243.**—H. L. TUMY, Cincinnati, Ohio.—*Book-binder's Beveling Machine*.—December 17, 1867.—The table on which the material is laid is hinged to the bed piece, and may be supported at any desired angle by the pawl brace and a rack, so as to present the material at any inclination to the knife.

*Claim.*—First, the roughened beveling leaf C, for the purpose above specified.

Second, the bed plate B, beveling leaf C, gauging-bar D, and pawl g, arranged and operating substantially as and for the purpose herein described and set forth.

**72,244.**—EDWIN R. WALKER, New York, N. Y., assignor to ELLIOTT P. GLEASON.—*Argand Burner*.—December 17, 1867.—The disk is raised by a screw, and acts as a valve on the gas passages.

*Claim.*—The combination of a disk or plate of metal with a regulating screw, for the purposes fully described.

**72,245.**—JAMES P. WALSH, Helena, Montana.—*Attaching Picks to their Handles*.—December 17, 1867.—The side pieces attached to the handle and the head of the pick have agreeing dovetails. The engaging projections are inserted laterally, and side movement prevented by a ferrule, which is secured by a traverse pin.

*Claim.*—In the attachment of a tool to its handle, a dovetail projection a from the tool interlocking with a corresponding slot e in the head of the handle, and retained therein by an encircling band E, a transverse pin or other equivalent device, substantially in the manner set forth.

Also, the independent metallic side pieces D, when formed substantially as herein described, and united to a handle B so as to receive and retain a dovetail projection a of a tool, substantially as and for the purpose herein specified.

**72,246.**—GEORGE WALTERS and THOMAS SHAFER, Phoenixville, Pa.—*Preparing Fagots for Manufacturing Wrought Beams or Girders*.—December 17, 1867.—The solid portions have ribs entering recesses in the portion formed of plates, which are riveted together. The portions are secured together by wedges.

*Claim.*—A pile or fagot (for wrought-iron beams) composed in part of a solid bar or bars, with a rib or ribs e, and in part of a number of bars riveted together and wedged to the said rib or ribs, all as set forth, for the purpose specified.

**72,247.**—WILLIAM G. WATERMAN, Middletown, Conn.—*Cork Extractor*.—December 17, 1867.—The corkscrew and spring are folded or drawn up within the handle when not in use. The latter is used to encircle a cork which had been pushed into the bottle and to extract the same.

*Claim.*—The combination of the corkscrew B and the spring E, both being attached to the handle A in the manner herein set forth and described.

**72,248.**—GEORGE WATT, Richmond, Va.—*Whiffletree*.—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, the whiffletree A A', formed of bent metal, with three straight sides, one of which is enlarged in the center, to sustain endwise pressure, as described.

Second, in bent metal whiffletrees, the replaceable rings or thimbles B, substantially as and for the purposes set forth.

**72,249.**—JOHN WEICHART, San Francisco, Cal.—*Straw Cutter*.—December 17, 1867.—A square cutter bar is stretched across the outlet of the box, and above this is another bar having upright pins, surrounded by spiral springs, the pins moving up and

down in holes on a cross plate. The knife is depressed by a cam and has a draw cut.

*Claim.*—First, the manner of operating the feed-roller B by the toothed wheel C and cam D, substantially as and for the purposes described.

Second, the cam E, in combination with the arms d d', jointed to the knife, and the spring H, for throwing it back, substantially as described.

Third, the movable pressure plate b, spiral springs c c, so that the material to be cut will be held firmly in place, substantially as described and shown.

**72,250.**—GEORGE W. WHEELER, New Fairfield, and HIRAM I. STEVENS, Bethel, Conn.—*Marble Cutting Machine*.—December 17, 1867.—The reciprocating tool-frames are guided by rollers whose boxes have lateral adjustment along the double rails of the frame between which they are supported.

*Claim.*—The frame B, constructed as described, so that the roller guides may be adjusted as described.

Also, the adjustable coupling F, as set forth.

**72,251.**—JAMES M. WHITING, Providence, R. I.—*Railroad Switch*.—December 17, 1867.—The pivoted switch has two inclined faces, against either of which the wheel of the street car may be made to strike to switch the car to either track.

*Claim.*—The construction and arrangement of the switch S in such a manner as that it may be properly shifted by the rail-car in the act of passing over the same, substantially as described.

**72,252.**—JOSHUA WHITTEMORE, South Reading, Mass.—*Soap Rest*.—December 17, 1867.—The perforated rest has a spring bracket for attachment to the edge of a tub.

*Claim.*—As a new article of manufacture, a soap rest, consisting of the shelf A and bracket and spring D C E, made substantially as described and for the purpose set forth.

**72,253.**—J. D. WILLOUGHBY, Shippensburg, Pa.—*Lamp Chimney*.—December 17, 1867.—The lower end of the chimney has an inturned flange and the burner has catches to engage the flange. One of the catches is movable and operated by a lever.

*Claim.*—First, a lamp chimney with the flange I, or its equivalent, as and for the purpose set forth.

Second, a lamp top, with the catches o o, or their equivalents, as and for the purpose set forth.

Third, the lamp chimney, with the flange I, and the lamp top, with the catches o o, in combination with the spring U, or its equivalent, as and for the purpose set forth.

**72,254.**—J. E. WINANTS, Brooklyn, N. Y., assignor to himself and JOHN F. GRIFFIN.—*Apparatus for Melting and Straining Crude Turpentine*.—December 17, 1867.—The rotating strainer has steam radiators and is supported on an inclined axis. The crude material is emptied into one end and the refuse discharged at the other. The cylinder is inclosed in a case which catches the strained matter.

*Claim.*—The employment of a rotary heating and straining cylinder, substantially in the manner and for the purposes set forth.

**72,255.**—E. L. WOODS, Alliance, Ohio, assignor to himself, JOSHUA H. WOODS, BENJAMIN F. WOODS, and JAMES L. WOODS.—*Buckle*.—December 17, 1867.—The strap slides in the main frame and the pivoted frame has a tongue to engage the holes in the strap.

*Claim.*—The plate and clips B B, projection a, in combination with hinge holder D and tongue d, constructed substantially as described and operating as set forth.

**72,256.**—NOTLEY W. WORTHAM, Union Point, Ga., assignor to himself, T. C. HENDRY, M. L. WATSON, and P. W. PRINTUP, same place.—*Millstone Dress*.—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The improved millstone dress, consisting of the four furrowed sections at right angles to each other, in the manner described and for the purpose specified.

**72,257.**—LOUIS B. F. ZITKOR, Portland, Me.—*Stall for Cattle and Horses*.—December 17, 1867.—



The secondary floor is divided into the portions which are hinged to and fold against the sides and manger, the latter forming a bedding receptacle under the manger.

*Claim.*—The improved stall, substantially as described, combining the secondary floor and bedding-box, as and for the purposes set forth.

**72,258.**—CHARLES R. ABBOTT, Elmira, N. Y.—*Flexible Steam Pipe for Connecting Heating Pipes in Railroad Cars.*—December 17, 1867.—Two steam pipes sliding upon each other have at their outer ends ball and socket joints by which they connect with pipes on contiguous railway cars.

*Claim.*—The combination and arrangement of pipes A and B, ball and socket joints C and D, and pipes E and F, substantially as and for the purposes described.

**72,259.**—JOHN R. ADAMS, New York, N. Y.—*Coffee Mill.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The pivoted lid of the mill, attached by an arm to the grinder-shaft for the purpose of turning the grinding-cone, as described.

**72,260.**—JOHN AIKEN, Warner, N. H.—*Harrow.*—December 17, 1867.—The tooth bars are pivoted. The top of the front one is connected by a chain to the bottom of the next, and the third similarly connected to the fourth.

*Claim.*—Connecting the rollers B to each other in pairs by chains C or equivalent flexible or jointed connection, substantially as herein shown and described, and for the purpose set forth.

**72,261.**—ALEXANDER ANDERSON, London, Ontario, Canada.—*Combined Damper and Ventilator.*—December 17, 1867.—The damper rod is journaled in a cylindrical case. The case and pipe are perforated to admit air into the pipe above the damper, and the perforations may be closed by turning the case.

*Claim.*—First, the slotted damper B with depressions or pockets *b* to provide an indirect passage for the smoke when closed, and with a weight *b*<sup>1</sup> to retain it in its open position.

Second, the sliding lever D constructed and applied substantially as shown and described, in combination with a notched plate E by which the lever and damper are held in any desired position.

Third, the combination with the joint of stove-pipe A, provided with apertures *a a* and horizontal slots *a*<sup>1</sup> of the damper B, and perforated ventilator C *c*, constructed, arranged and adapted to be separately operated by the same handle, substantially as set forth.

**72,262.**—L. V. BADGER, Chicago, Ill.—*Signal Lantern.*—December 17, 1867.—The lantern frame is placed in a hole in the roof; the lower portion has a door to allow attendance on the lamp. The lamp has a conical upward reflector to throw light on a transparency above the roof.

*Claim.*—A signal lantern for street railroad cars, composed of a box inserted in the roof and provided with a lamp, reflectors, and glass or transparent sides, substantially in the manner as herein shown and described.

**72,263.**—J. S. BORCOURT, Boonsboro, Iowa.—*Railroad Weed Cutter.*—December 17, 1867.—The circular cutters mow the weeds adjacent to the rails, and the straight cutter bar mows those at a greater distance.

*Claim.*—The arrangement of the circular cutters *d* and the straight cutter bar F, or either of them, in combination with a railroad truck A, substantially as and for the purpose herein described.

**72,264.**—M. C. BOYER, Norristown, Pa.—*Shaft Coupling.*—December 17, 1867.—The clamp is frusto-conical and bisected longitudinally. It has dowel pieces passing through the sides of the shafts. The tapering screws at the ends are embraced by annular nuts.

*Claim.*—The within described coupling composed of the two clamps B and B' adapted to the shafts, and nuts D and D' adapted to tapering screws *a a* on the clamps, all as set forth and for the purpose specified.

**72,265.**—GEORGE W. CARPENDER, Jarvis, Ind.—*Animal Poke.*—December 17, 1867.—The bar is pivoted to the bow, and inclining forward serves ordinarily to cover the points, but when brought in contact with a fence the points are unmasked to pierce the animal.

*Claim.*—The bow A, rounds B and C, bar D, rod E, and collar F, with its points, the several parts being constructed and used as and for the purpose set forth.

**72,266.**—D. H. CLOCK, Monroeville, Ohio.—*Trace Clamp.*—December 17, 1867.—The clamp has a frame through which the end of the tug passes; two studs engage holes in the tug.

*Claim.*—The construction of a clamp, in the manner substantially as described, as a new article of manufacture, when applied to the purpose specified.

**72,267.**—NOAH CLOUSE, Buffalo Village, Pa.—*Sorghum Evaporator.*—December 17, 1867.—Each evaporating pan is pivoted to a truck, by which it may be moved along tracks from one furnace to another, or from the place of filling to that of deposit. The supporting casters may be turned 90° to allow of running over all portions of the rectangular track. The pans may be tilted to discharge their contents.

*Claim.*—First, the manner, herein shown and described, of hanging the vessels A in the carriages B, by means of plates C, having pins *a* and screws *b*, and by means of steadying pins *c*, as described.

Second, the carriages E E, when provided with adjustable casters, having plates *e* on their upright axles and secured by pins *d* in any desired position, as described.

Third, the arrangement of the frame E, divided into sections to allow the easy transportation of the vessels A from one section to the other, as described.

Fourth, a sorghum evaporator, consisting of a series of separate vessels A A, hung in carriages B B, and moved in succession from the filling place, over the furnaces F and G, to the cooling pan or discharge, substantially as described.

**72,268.**—A. F. CROSMAN, United States Navy.—*Boat Lowering Apparatus.*—December 17, 1867.—The davit when swinging out is supported by a chain, which passes over a spring catch and is held thereby. The catch may be released by a cord which is attached to it. The chain is weighted, so that by releasing the catch when hoisting up the boat the chain is drawn in with the elevation of the davit.

*Claim.*—The notched spring catch G, in combination with the weighted chains *b* and jointed davits E, as herein described, for the purpose specified.

**72,269.**—ALONZO CROWNER, Wellsville, N. Y.—*Stump Extractor.*—December 17, 1867.—The trucks are connected by a right and left hand screw shaft. One of the trucks is secured to the stump and the other is anchored. The trucks are drawn together by rotation of the screw.

*Claim.*—First, the screw shaft A applied to transporting trucks, and provided with means for rotating it, for the purpose of extracting stumps and stones, substantially as described.

Second, providing a screw shaft A, which is applied to two trucks, substantially as described, with drums G G' connected together by spur wheels, so as to rotate in opposite directions, in combination with right and left pawls *h h'* and ratchet wheels *e e'*, substantially as and for the purposes described.

Third, the pendent guides J J for supporting pulleys *j j*, over which the ropes *k k'* of drums G G' pass, in combination with a machine operating substantially as described.

Fourth, sustaining the front end of the screw shaft upon or by means of a head block D, which is attached to a bolster D' by a staple E, so that it can rise and fall, substantially as described.

Fifth, the combination of the screw A, nut *a'*, and prop P, substantially in the manner and for the purpose herein described.

Sixth, the combination of rods F F with a right and left screw shaft A, which is supported upon trucks and operated substantially as described.

**72,270.**—FRED. CULVER, Elkland, Pa.—*Horse Hay Fork.*—December 17, 1867.—Pins upon the inte-



rior shaft slide in slots at the rear ends of the claw levers, and cause their issue from or withdrawal inside the pointed case.

*Claim.*—The combination of upright shaft C, rivets or pins B B, arms D D, with slots *a a* at their upper end and barbs at their lower end, the whole arranged substantially as and for the purpose specified.

**72,271.**—PERLEY D. CUMMINGS, Portland, Me.—*Needle Case.*—December 17, 1867.—The cushion is arranged to slide down into a cylindrical box.

*Claim.*—The combination of the cylinder *a*, rod *b*, tube *d*, and cushion *h*, substantially as and for the purpose set forth.

**72,272.**—EDWARD DE LA GRANJA, Boston, Mass.—*Deodorizing India-Rubber, Gutta-Percha, &c.*—December 17, 1867.—The india-rubber or gutta-percha is macerated in a solution composed of iodine 15 grains; permanganate of potash, 24 grains; iodide of potassium, 60 grains; glycerine, 4 ounces; sulphite of soda, 4 ounces; sulphite of lime, 4 ounces; sulphite of potassa, 4 ounces; and water, 1½ gallon. After remaining cold twenty-four hours the whole is boiled until one-eighth of the solution is evaporated, and the whole allowed to cool. The matters are contained in an earthen vessel. For scenting, the rubber is heated below the melting point and steeped in an alcoholic aromatic solution.

*Claim.*—First, the solution above described, when used as and for the purpose specified.

Second, the process of deodorizing and perfuming india-rubber and gutta-percha above described.

**72,273.**—DAVID DICK, Corning, N. Y.—*Woop Turning Lathe.*—December 17, 1867.—The hopper is supplied with a quantity of perforated blanks resting one upon another, and retained therein by the springs. The blank is roughed out by the gouges and finished by the chisels. The gouges and chisels are moved automatically to and from their work with a slow and fast motion, respectively. When the spool or bobbin is finished it is discharged from between the centers, and the hopper descends, causing a blank to be held by the springs in line with the centers. The blank is then secured upon the centers by movement of the lever.

*Claim.*—First, the two sliding tool-beds M O, provided with adjustable cutting tools and operated simultaneously towards and from each other at opposite sides of the lathe bed by means of the cam E, arm J, rock shaft H, and double crank L, all constructed and arranged to operate substantially as shown and described.

Second, the slotted arm J with the pin *b'* of the cam E applied to the cam E and rock shaft H, substantially as shown, for the purpose of moving the sides M O slowly towards each other, and with a quick movement outward from each other, as set forth.

Third, the rising and falling hopper W operated automatically from the sliding bar D, through the medium of the arms Z C' and pin *u*, all constructed to operate substantially as and for the purpose set forth.

Fourth, the lubricating chamber Y in the hopper W, arranged in relation with the center point *a'*, operating substantially as and for the purpose specified.

Fifth, the flanged center point *b* on the mandrel C, with the eye *r* working over said point and operated automatically from the sliding bar D, constructed and operating substantially as and for the purpose set forth.

**72,274.**—W. B. DUNNING, Geneva, N. Y.—*Railroad Car Ventilator.*—December 17, 1867.—The inside sash may be moved inward so as to remain parallel with the car side, but to have a passage all around it for admission of air; or the inner sash may be inclined in either direction so as to permit the air to pass outward, but not favor the admission of dust and cinders.

*Claim.*—A window sash, or other frame, made of two frames, one within the other, and hinged or otherwise hung, the inner to the outer and the outer to any suitable frame, so as to be susceptible of the operation, substantially as and for the purpose described.

**72,275.**—JACOB EUTENEUER, Peoria, Ill.—*Lamp Chimney Tongs.*—December 17, 1867.—The double-clawed wire tongs are connected to handles similar to those of shears.

*Claim.*—The grasping claws and handle of chimney tongs, when constructed and arranged substantially as shown and specified.

**72,276.**—MORRISON FOSTER, Cleveland, Ohio.—*Railroad Spike.*—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—In combination with hook-headed railroad spikes the so enlarging of the head, and continuing it, as that there will be formed, in conjunction with the head, a shoulder at the rear of the spike, on a line below the under side of the hook of the spike, so that said shoulder shall come in contact with the wood into which the spike is driven a little before the hook comes in metal contact with the flange of the rail it is to hold, and thus prevent any liability to fracture or overstrain the head of the spike, substantially as described.

Also, in combination with the shoulder at the rear of the spike, when formed with a continuation of the head and located with regard to the under side of the hook, as above described, the shoulders at the sides of the spike and on a line with the shoulder *b*, and auxiliary thereto, for the purpose of shedding the rain or other water from the hole made by driving in the spike, and thus preventing the rotting of the cross tie and consequent loosening of the spike, substantially as described.

Also, curving the lower portion of the shank of the spike backward, in combination with the rear inclination, to form the point, for the purpose of causing it to hug the edge of the flange of the rail as it is driven in alongside of it, substantially as described.

**72,277.**—O. S. FOSTER, Durhamville, N. Y.—*Jack for Pulling Hop Poles.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The metallic head D, having trunnions and claws E E all formed of one piece and connected to L-shaped standards B B, which are secured to a block A and provided with a suitable handle C, all constructed and used for the purpose specified.

**72,278.**—CHARLES FOWNES, Pittsburg, Pa.—*Furnace for Steam Boiler.*—December 17, 1867.—The segmental space beneath the boiler is concentric therewith, and has a longitudinal diaphragm dividing the combustion chamber from the air-heating chamber beneath it. Forwardly inclined jets of air pass through the diaphragm to cause the thorough combustion. Jets of heated air are thrown into the rear ends of the flues for a like purpose. The air may be injected beneath the diaphragm by steam jets.

*Claim.*—First, the smoke consumer, composed of the diaphragm T, with its set of burners U U' U'' U''' U''', &c., and burner V V, channel J J, openings K K, and blowers M M, or their equivalent, arranged and operating as specified.

Second, the diaphragm T T, curved or corrugated, so as to obtain more heating surface and to form channels for collecting the dust, as described.

**72,279.**—CHARLES FOWNES, Pittsburg, Pa.—*Hinging Tea-Kettle Covers.*—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, swinging the lid of a tea-kettle around a center placed or located to the right or to left of the bail ear D, out of the center line of the spout, and nearer to the spout than to the back of the tea-kettle, so that the lid in pivoting around that center will swing clear of the bail lug G without being elevated to pass over it, as set forth.

Second, the combination of the pin M or pins N N with the knob G, or its equivalent.

Third, the combination of the split piece P or pieces P P' with the knob G.

Fourth, the combination of the screw V cast or chilled in with the piece G.

Fifth, the combination of the washer W with the pieces M N N, P P', V, and the knob G and rim H, used for the purpose set forth.

Sixth, securing the lids of tea-kettles by means and with the use of the screw F, bolt V, pin M, pins N N, or pieces P P', as described.



**72,280.**—S. C. FRANK, Indianapolis, Ind.—*Sad-iron Heater*.—December 17, 1867.—The air enters the bottom and the gas the side of a chamber beneath the cotton chamber, which is between an upper and lower gauze. The air and gas are mingled in the passage through the cotton chamber and ignited above it. The calorific current passes beneath the iron, whose point is raised by a stud.

*Claim.*—First, the peculiar-formed base piece L as represented in Fig. 3, with the air, gas, and cotton chambers attached, separated by gauze wire or perforated metal, substantially as set forth.

Second, the metallic ring or band K, Fig. 4, when used to bind or make fast the gauze wire or perforated metal P on the gas, air, or cotton chambers I I, as represented in Fig. 3 of drawings, substantially as herein set forth.

Third, the peculiar-shaped shell or cover E, with the inclined plane A, lug O, and beveled sides C to receive the flat or tailor's iron, as represented in Figs. 1 and 2, substantially as herein set forth.

Fourth, the whole device, when constructed and operated substantially as set forth.

**72,281.**—THOMAS Q. FROST, Indian River, N. Y.—*Washing Machine*.—December 17, 1867.—The dashers are reciprocated by a compound crank shaft and run between grooved anti-friction rollers.

*Claim.*—The combination of the dashers C, rods D, gear wheel E, pinion F, crank shafts G & A, pitman K, grooved rollers O, and adjustable rollers L, as herein described for the purpose specified.

**72,282.**—WILLIAM B. GABEL, East Cocalico township, Pa.—*Horse Hay Fork*.—December 17, 1867.—The hoisting rope is attached to one arm and passes through the flattened hook and around a sheave in the end of the same arm. When hoisting, the hook is engaged over a pin of the other arm, which pin is retracted by the cord in releasing.

*Claim.*—The vertical bolt D, entering the eyes of a flattened hook C, which terminates a single arm A, forked at the other end, and connected to a similar forked arm B, by a central rivet, all arranged as above described, and in combination with the lever E, ring I, and one or two pulleys K J, all arranged and operating in the manner and for the purpose specified.

**72,283.**—WILLIAM GARDENER, New York, N. Y.—*Iron Safe*.—December 17, 1867.—The door edge is doubly rabbeted and has a series of notched pins projecting inward. The pins pass through the ease and their notches are entered by the bolts, which also pass through an intumed flange of the door jambs. The pins on the hinge side are removable and are inserted after the door is closed.

*Claim.*—First, the Z-shaped frames e and e, in combination with the pins f f, substantially as and for the purpose herein shown and described.

Second, the Z-shaped frames c and e, in combination with the pins g on the door A, substantially as set forth.

Third, the removable pins g' and plate i, in combination with the Z-shaped frames c and e, substantially as set forth.

Fourth, the grooved bottom K of the safe, in combination with the false bottom m, the latter being provided with a dovetail or other projection l, substantially as herein shown and described.

**72,284.**—M. A. GATES, Troy, Pa.—*Cheek Rein Attachment*.—December 17, 1867.—The cheek hook is attached to a strap which passes through a turret in the usual place of the cheek hook. The strap runs back and has a ring engaged by a hook on the crupper. The strap is disengaged from the hook to allow the animal to drink from a stream.

*Claim.*—The combination of the cheek-rein hook B, strap C, turret ring A, stop ring D, hook ring E, strap F, end ring G, and hook H with each other, when used in connection with the cheek rein, saddle or pad, and back strap of a harness, substantially as herein shown and described and for the purpose set forth.

**72,285.**—ALBERT H. GILMAN, Hopedale, Mass.—*Lubricating Spindle*.—December 17, 1867.—The spindle is rotated by a bevel gear attached near its lower

end. The bolster has a side extension containing an oil chamber filled with fibrous material. Oil is conducted through the vertical slot in the bolster bushing. The bobbin is rotated by a bevel-gear collar which turns on the bushing, and the collar has an annular oil chamber containing fibrous material.

*Claim.*—First, the combination of the chambered nut E, provided with an absorbent material as set forth, with the bolster, or with the same and the bushing, to extend down from such bolster, as explained.

Second, the combination of the chambered nut E, provided with an absorbent as set forth, with the bolster and its chamber e, furnished with an absorbent material arranged so as to lie against the spindle, as specified.

Third, the combination of the chambered nut E, the chambered bolster and bushing, provided with a passage and an absorbent material to extend through such passage and against the spindle, as described.

Fourth, the combination of the lubricating chamber i and its supply passage k with the gear F, the bearing thereof, and the conduit e, or its equivalent, arranged in the bolster and to open against the spindle, as specified.

**72,286.**—S. GOCHNAUER, York, Pa.—*Horse Hay Fork*.—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, operating the movable toes by means of an oscillating roller C, substantially as herein shown and described.

Second, strengthening and bracing the tines by means of the roller which operates the toes, in the manner substantially as shown and described.

Third, the combination of the spring lever F with the oscillating roller C and the tines A, substantially as herein shown and described.

Fourth, the locking recess b, when used in combination with the spring lever F, substantially as herein shown and described.

Fifth, the discharge lever K, arranged and operating in combination with the said locking recess and the spring lever, as set forth.

**72,287.**—RICHARD GORNALL, Baltimore, Md.—*Valve for Boiler Feeders*.—December 17, 1867.—The float has direct action on a valve regulating the passage of steam to the injector or "doctor" engine.

*Claim.*—The combination of the float F and valve v, seating upwards, with the chambers C and C', the pipes D S W, and the cylinder A, the valve being attached directly to the float F by the valve stem f, and the parts operating without levers or gear of any description, but substantially in the manner and for the purposes specified.

**72,288.**—ROBERT GRACEY, Pittsburg, Pa.—*Bolt-heating Machine*.—December 17, 1867.—The operative rods of the toggles which actuate the clamping dies and hammer are connected to weighted drop levers which are raised by cams. The blank is held between the dies and headed by the hammer.

*Claim.*—First, the combination of the cam C, the weighted drop lever C', the toggle F, and the heading hammer, constructed, arranged, and operating together substantially as described.

Second, the combination of the cams D and D', the levers E and E', the toggle G G', and the movable heading and gripping dies, constructed, arranged, and operating together substantially as described.

Third, in combination with the heading hammer, the toggle F, the drop lever C', and cam C, an elastic post, stud, or other elastic bearing, to arrest the descent of the drop lever, and cause it instantly to rebound and remove the hammer from the heated iron, substantially as shown and described.

Fourth, in combination with the heading and gripping dies, the piston k and stake s, arranged and operating as described, to detach the finished bolt from the dies.

**72,289.**—EBENEZER V. W. GRIFFITH, Utica, N. Y.—*Potato Digger*.—December 17, 1867.—The fork, when inserted beneath the hill, is thrown up automatically and the potatoes cast on the vibrating screen. Pins on a rotating disk operate on a bent lever projecting backward from the fork to cause this action.

*Claim.*—First, the fork D, the bent lever D' and



the pin  $G^1$ , or their equivalents in combination, for the uses and purposes mentioned.

Second, the fork D, operated by the lever  $D^1$  and pin  $G^1$ , in combination with the screen H, substantially as described, and for the uses and purposes mentioned.

Third, the fork D and the bent axle  $A^1$  and lever  $D^1$ , in combination, for the uses and purposes mentioned.

Fourth, operating the fork automatically by means of the gearing E and F and the pin  $G^1$ , substantially as described, and for the uses and purposes mentioned.

**72,290.**—MOSES HALL, Jr., Osborn, Ohio.—*Ash House*.—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, a fire-proof ash house and leach tub combined, substantially as shown and described, and for the purposes set forth.

Second, the fire-proof box A, in combination with the hopper B and screen C, substantially as shown and described, and for the purpose set forth.

Third, the fire-proof leach tub D, in combination with the parts K and screen  $S'$ , substantially as shown and described and for the purposes set forth.

Fourth, a fire-proof box C, in combination with the fire-proof leach tub D, substantially as shown and described and for the purposes set forth.

**72,291.**—LEVI HEYWOOD, Gardner, Mass.—*Machine for Splitting Ratan*.—December 17, 1867.—The series of radial cutters are independently inserted in the block. The quill is adjustable in distance from the cutters to suit the state of the ratan.

*Claim.*—An independent tube or quill E, which may be adjusted more or less in advance of the cutters, substantially as and for the purpose set forth.

**72,292.**—LEVI HEYWOOD, Gardner, Mass.—*Machine for Bending Wood*.—December 17, 1867.—An auxiliary mold is used in combination with the mold usually employed. The central portion of the timber is first bent in the ordinary mold, after which the auxiliary mold is clamped thereto and the end portions bent.

*Claim.*—The molds A and B, in combination with the lever D, or its equivalent, all constructed to operate in the manner substantially as and for the purpose set forth.

**72,293.**—LEVI HEYWOOD, Gardner, Mass.—*Machine for Bending Wood*.—December 17, 1867.—Improvement on his patent March 13, 1860. The sections are connected by wire ropes which pass through them. Each section has a projection or recess engaging the teeth of the wheel by which the timber is bent.

*Claim.*—Connecting links A of a chain for bending wood by one or more flexible ropes B, substantially as set forth.

**72,294.**—J. E. HIGNUTT, Denton, Md.—*Cinder Shovel*.—December 17, 1867.—The shovel is made in the form stated in the claim and may be used as a sifter.

*Claim.*—The cinder shovel herein described, constructed with a vertical handle A, and a horizontal or nearly horizontal toothed scoop C D, substantially as and for the purpose set forth.

**72,295.**—ROBERT F. HILL, Philadelphia, Pa.—*Burial Case*.—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The body A, provided upon its upper edge with the flange  $d$ , projecting within and without the case, having in its under side, within the case, the countersunk nuts  $i$ , the corresponding flange  $h$ , upon the lower edge of the cover B, said flanges, secured together by the thumb-screw C, passing through both and into the countersunk nut  $i$ , the head of said screw being without the cover, and the end within the body A, as herein described for the purpose specified.

**72,296.**—W. H. H. HOLLEN, Fostoria, Pa.—*Knitting Machine*.—December 17, 1867.—By rotating the cam wheel the studs successively pass between the teeth and thus rotate the needle carrier, while the end of the arm traverses the cam groove and gives motion to the rock shaft and the stitch lifter, whose

salient point slides up the groove of a needle, and then forward and under the stitch thereon. The heel of the lifter slides up the groove. The stitch is carried over the end of the needle and the outer projection presses the stitch under the end of the needle, and leaves it to be pressed back against the front end of the needle carrier. The thread carrier is then brought forward and passes the thread across the needle, making a stitch in the hook. The needle carrier is then carried forward by one of the studs.

*Claim.*—First, the combination and arrangement of the wheel B, having a groove  $b''$ , with the arm G of the rock shaft H, as described and shown, for the purpose of giving the necessary movements to the stitch lifter C, thread carrier D, and the pressers E and F F, as described.

Second, in combination with the elements of the preceding first clause, the studs  $b' b' b'$  in the disk wheel B, and the teeth  $a''$  in the needle carrier A, when arranged to move the said carrier A at the periods required by the said stitch lifter C, thread carrier D, and pressers E and F F, as described.

Third, the grooved and bent needle  $a'$ , in combination with the stitch lifter C, both constructed as described for the purpose specified.

Fourth, the stitch lifter C, made in the form shown, *i. e.*, with the three projections 1 2 3, for the purpose of causing the stitch lifter of the machine to operate, in combination with the grooved and bent needles  $a'$ , in the manner and for the purpose described.

Fifth, the thread carrier D, made with curved sides and edged ends, substantially as and for the purpose described.

Sixth, the vibrating stitch presser E, formed as described, at its lower end, for the purpose of causing it to pass more closely along the lower sides of the needles in forcing back the stitches, as described.

**72,297.**—HENRY HOWE, Oneonta, N. Y.—*Cultivator*.—December 17, 1867.—The plow standards are pivoted to the beams, the side plows having laterals adjustment. The wheel is journaled to a stand and pivoted to the central beam. The standard may be lowered sufficiently to form a support in moving from field to field.

*Claim.*—First, extending the rear end of the central beam C back, to receive and support the rear or central plow standard D, substantially as herein shown and described.

Second, the gauge wheel frame J, constructed substantially as herein shown and described, and pivoted to the central beam C, or to some other support at the central part of the cultivator frame, as and for the purpose herein set forth.

Third, the combination of the lever latch N with the beam C and gauge wheel frame J, substantially as herein shown and described and for the purpose set forth.

Fourth, pivoting or hinging the standards D and F to the cultivator frame by means of the brace ears  $d'$  and  $f'$ , substantially in the manner herein shown and described and for the purpose set forth.

**72,298.**—JAMES B. HUDSON, Fayetteville, Pa.—*Automatic Rain Conductor*.—December 17, 1867.—The rain falls into an inverted conical sieve, and then into a funnel from which it falls on a pivoted plate by which it may be deflected to either of the two discharge pipes. The plate is actuated by a float in the cistern, which turns the water into the discharge pipe when the latter is full, but turns it back with a decrease of the water therein.

*Claim.*—The cylinder A, having a removable cover B, and provided with a hopper  $n$ , strainer  $a$ , partition E, pivoted disk D, operated by float F and rod R, and pipes C P  $m$  and W, all constructed, arranged, and operating substantially as and for the purpose described.

**72,299.**—JOHN W. HULL, Connersville, Ind.—*Machine for Trimming Hedges and Cutting Corn*.—December 17, 1867.—The adjustable rotary cutter is actuated by gearing connected to the ground wheels. The cutter may be adjusted to cut corn or to trim the sides and top of hedges.

*Claim.*—First, the combination of the frame A, the hinged wheel B, the cog-driving wheel C, connected with gearing to move the horizontal shaft  $e$ , and the vertical shaft  $e$ , the rotating disk G, with the



hedge-cutting knives *h h*, the forked guide *H*, and the treadle *E*, arranged and operating substantially as and for the purpose herein described.

Second, the combination of the main frame *A*, the side frame *I I*, the forked cornstalk-cutter *K*, the fixed arms *m m*, the pivoted arms *m' m'*, and the treadle *E*, arranged and operating as and for the purpose herein set forth.

**72,300.**—EZRA HUTSON, Broekport, N. Y.—*Foot Power*.—December 17, 1867.—A single belt passes over two pulleys and is brought down around an idler pulley. The pulleys have pawls engaging on a ratchet wheel attached to the shaft, and act alternately upon it to impart a continued rotation in one direction. The ends of the belt are attached to treadles.

*Claim.*—The rollers *d* and *e*, ratchet *g*, and pawls *m* and *n*, the whole combined substantially as and for the purpose herein set forth.

**72,301.**—E. B. IVES, Bristol, Conn.—*Vegetable Cutter*.—December 17, 1867.—The rotating cutter disk has a series of curved knives parallel with itself, and several concentric series of knives cutting rectangularly to the others.

*Claim.*—The wheel *E*, provided with knives *g g g* and *e e e*, substantially as described.

**72,302.**—C. C. JONES, Portland, Me.—*Door Bolt*.—December 17, 1867.—The bolt oscillates in a vertical plane and engages in a socket plate let into the floor. The bolt is depressed by a spring and is raised by a knob which is forced down by the toe.

*Claim.*—The combination of bolt *c*, knob *e*, and spring *f* in the case *a* with the plate *g*, substantially as and for the purpose herein described.

**72,303.**—G. F. KROLLPFEIFFER, New York, N. Y.—*Sled*.—December 17, 1867.—The pivoted levers are connected together in the rear, and have a pivoted dog bar by which the sled may be driven forward.

*Claim.*—The attachment to sleds, sleighs, and other land conveyances, consisting of a pivoted frame *B*, rod *E*, and handles *F*, substantially as and for the purpose described.

**72,304.**—MARY JANE LAIRD, Middleton, Pa., administratrix of the estate of ANDREW J. LAIRD, deceased.—*Horse Hay Fork*.—December 17, 1867.—The blades are thrown out by the bent lever, whose end has the disengaging line attached thereto and passes through the hoisting ring. The lever is protected by the guard.

*Claim.*—The guard *D*, when applied to hay forks for the protection of the lever or arm, substantially as described and set forth.

**72,305.**—S. J. LEACH, Tuscaloosa, Ala.—*Plow*.—December 17, 1867.—Explained by the claims.

*Claim.*—First, facing the moldboard of a plow with a thin detachable sheet or plate of wood, steel, or other suitable material, substantially as herein shown and described and for the purpose set forth.

Second, forming the moldboard *B* of a plow with a shoulder *b'* and with slots or sockets *C* to receive the forward edge and tongues of the facing plate *D*, substantially as herein shown and described and for the purpose set forth.

**72,306.**—GEORGE LEAS, Shirleysburg, Pa.—*Lamp Chimney Cleaner*.—December 17, 1867.—The serrated disk is for engagement of a piece of paper or cloth to clean the inside of the chimney.

*Claim.*—The lamp chimney cleaner, as described, the disk *B* of which is provided with a serrated metallic flange, as herein set forth.

**72,307.**—JOHN R. D. V. LINTON, New Bedford, Mass.—*Seat for Vehicles*.—December 17, 1867.—The "seat riser" or base is of cast-iron.

*Claim.*—As a new article of manufacture a cast-metal seat riser, made substantially as herein shown and described.

**72,308.**—JOEL R. MARTIN, Martinsburg, Ind.—*Beehive*.—December 17, 1867.—The hive proper is a frustum of an inverted pyramid, and is supported by

legs proceeding from its upper part. The honey boxes are in a rectangular top hinged to the hive. Beneath the square opening at the base is a pyramidal block to assist the bees, but forming no direct connection and means of ascent for the worms after ejection. The pivoted cleats are supported on blocks extending sideways from the mouth, and having inclined sides which may be baited for millers. The cleats are let down to form a means of ascent thereto.

*Claim.*—First, the block *G*, connected to the end of the hive *A*, and provided with its cleats *d d*, pivoted as set forth and for the purposes described.

Second, the combination of the hive *A*, as constructed, with block *G*, having cleats *d d*, and supported by the standards *H H* above the pyramidal-shaped block *K*, all constructed and used for the purposes set forth.

**72,309.**—DAVID MATTHEW, Prairie du Chien, Wis.—*Protecting Steam Boilers from Corrosion*.—December 17, 1867.—The zinc and copper disks are strung on a double-pointed rod, which is supported on the boiler bottom by leaden plates.

*Claim.*—A galvanic pile, which is composed of copper and zinc plates, or other metals equivalent in galvanic properties, applied upon a metal rod, which is provided on its ends with supporting disks, said pile being employed substantially in the manner and for the purposes described.

**72,310.**—JAMES MAXEY, Kewanna, Ind.—*Churn*.—December 17, 1867.—A gauze disk is placed above the wheel to prevent the upward splashing of the cream.

*Claim.*—The arrangement of the churn body *A*, standards *H H*, shaft *I*, wheels *G* and *F*, and staff *B*, provided with the wheel *D* and the paddles *C C*, as and for the purpose set forth.

**72,311.**—IRA C. McALLASTER, Milo, Mich.—*Trace Fastener*.—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The buckle constructed as described, consisting of the frame *E*, having parallel side guards *F* and ear pieces *G*, through which the rivets *H* pass, and slotted upon its upper side to receive the lever *M*, hung by a slot *a* on a cross pin *b*, upon which it slides, and provided with the tongue *L* at one end, its other end fitting upon the surface *P* of the buckle frame, as herein described, for the purpose specified.

**72,312.**—DAVID L. MCGREGOR, Charlestown, Mass.—*Back-band Fastener*.—December 17, 1867.—The bands on each side are attached by a ring to a plate, which, passing between the burr-piece and cover, is traversed by the terret. The upper end of the plate hooks into the burr-piece.

*Claim.*—The metallic band-fastener *c*, in combination with a saddle, substantially as described and for the purpose set forth.

**72,313.**—J. N. MCINTIRE, New York, N. Y.—*Sash Stopper*.—December 17, 1867; antedated December 5, 1867.—The catch is on a pendulous arm, and is so arranged as to engage one of a series of pins projecting from the sash. The sash may be freely raised or lowered, the inclined ends warding the pins from the catches.

*Claim.*—The catch or cam-like hook, so constructed and arranged as to interlock with and disengage from suitable pins or projecting stops in substantially the manner described, for the purposes set forth.

**72,314.**—JOHN S. MERRILL, Newtown, Md.—*Window Sash Supporter*.—December 17, 1867.—The elastic roller or ball is confined in an inclined case, so as to allow the free raising of the sash, but to mount the incline and act as a support. When lowering the sash, it is pressed sideways, compressing the anti-friction rollers on the other side.

*Claim.*—The use of the self-acting metallic roller *D*, in combination with the inclined metallic box *C*, in the one side of the sash, and two friction rollers *E E*, attached to the opposite side of the sash, when arranged, combined, and operating with the sash, as herein described and for the purposes set forth.

**72,315.**—MYRON MILES, Middlesex, N. Y.—*Horse Rake*.—December 17, 1867.—The rake head is



journalled to kneed draw bars hinged to the axle upon which the seat is supported. A vertical hand lever has connection with the guide standard, whose lower end is strapped to the rake head. The standard has a pawl resting on a projection from the head. When the standard is drawn forward the stop is raised from the rear teeth and the rake tilted. For removal from field to field the draw frame has pivoted standards, at whose ends are castor wheels to support the rake from contact with the ground.

*Claim.*—The combination and arrangement of the hinged draw bars D D, guide standard G, connecting rod H, brace bars M M, and stop L, substantially as herein specified.

Also, the slots *m m* in the brace bars, and the springs *c*, in combination with the stop L, for the purpose herein specified.

Also, the arrangement of the caster or carrier wheels N N in combination with the rake and with the draw bars D D, substantially as and for the purpose herein set forth.

**72,316.**—JOHN MITCHELL, Newark, Ohio.—*Washing Machine.*—December 17, 1867.—The plunger frame is connected by links to the cross-bar at the head of the standards, and its projections enter between the stationary ribs in the suds box.

*Claim.*—The frame L, hung by arms H H to bar T, when provided with ribs I I and weight F, in combination with the box A, having standards D, inclined bottom O, and stationary ribs M, all constructed, arranged, and operating as and for the purpose described.

**72,317.**—CHRISTOPHER MOEGLING, Milwaukee, Wis.—*Ventilator for Flour Mills.*—December 17, 1867.—The space between the top of the running stone and inside of the curb is closed up by a band of leather or rubber, hanging from the under side of the curb top and reaching to the top of the running stone. A horizontal annular piece extends from the top edge of the stone to the curb. A pipe carries off the moist, heated air from the flour. Cold air is passed through the eye of the stone between the grinding surfaces. A frame is attached to the side of the running stone to keep the space between it and the curb free from flour.

*Claim.*—First, in connection with an ordinary open-top curb, the stops *i m* or *n*, or their equivalent, as and for the purposes set forth.

Second, the educting pipe D, when provided with the water-stops *k k* or *k'*, whether said pipe leads off from the curb B or from the receptacle C, for the purposes specified, either with or without the aid of the wings E.

Third, the vertically adjustable frame F, when used as and for the purposes specified.

**72,318.**—WILLIAM R. MOZIER, Higginsville, Ill.—*Seed Planter.*—December 17, 1867.—The seed cylinder is oscillated by a trigger operated by hand, and connected with the cylinder by levers.

*Claim.*—The combination of the trigger or hand lever J, spring L, lever I, connecting bars K and H, crank G, recessed cylinder F, and seed box E, with each other and with the forward-plow standard B, plow beam A, and handle D, substantially as herein shown and described, and for the purpose set forth.

**72,319.**—NICHOLAS NOLAN, New York, N. Y.—*Propeller.*—December 17, 1867.—The blades are oscillated with their rock frame, and are feathered, so as to move forward edgewise and move backward flatways to propel the boat.

*Claim.*—The blades or paddles D D, fitted in the rock frame B, and operated from the driving shaft K, through the medium of the crank wheel J and connecting rod I, or their equivalents, in combination with the rod M attached to the crank L on the driving shaft, and provided with the hook *i\** and shoulder *j*, to catch over pins *h h'*, the bevel segment H and the bevel wheel G on shaft F, connected with the bar E, all being arranged to operate in the manner substantially as and for the purpose set forth.

**72,320.**—FERDINAND GUST. OEHME, Plymouth, Mass.—*Sail-releasing Apparatus.*—December 17, 1867.—The sheet is connected to the apparatus, which

gives way at a certain fixed strain to prevent upsetting of the boat.

*Claim.*—First, connecting the sail to the boat by means of an apparatus formed by the combination of inclined planes, spiral springs, and double-acting hooks, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the perforated grooved and slotted block A, adjustable flanged blocks E and G, springs H, coiled spring or springs B, pin D, block J, and hooks K with each other, substantially as herein shown and described and for the purpose set forth.

**72,321.**—SAMUEL PAGE, McAlisterville, Pa.—*Horse Hay Fork.*—December 17, 1867.—The central pointed tubular bar has a central shaft with teeth pivoted to its ends that issue from the side with the depression of the shaft. The depression is caused by a lever to which a rope is attached to release the load. On each side of the bar is a vertical tine.

*Claim.*—The bar C having a slot at its upper end through which is passed the lever D, said bar being provided with the curved teeth G G and used in combination with the bars B B having pointed head H and tines A A, all operating as specified.

**72,322.**—ALFRED PARAF, Mulhouse, France.—*Treating Sponge for Producing Textile Fabric.*—December 17, 1867.—The sponge, when purified, if too hard, is soaked in water containing from 10 to 20 per cent. of glycerine, after which it is cut into small pieces and carded. It is then felted or spun.

*Claim.*—The herein-described method of treating sponge to convert the same into fiber capable of being felted, spun, &c.

**72,323.**—C. E. PATRIC, Macedon, N. Y.—*Lifting Apparatus for Grain Drills.*—December 17, 1867.—The rear end of the draw bars are connected by chains to a roller which has spur wheels that climb on racks when the roller is turned by a hand lever.

*Claim.*—First, the employment of the racks R and pinions *w*, in connection with the hand lever F and shaft H for the purposes set forth, whether the lifting chains are made to wind upon the shaft or not.

Second, the arrangement of the locking latch D with the shaft H when it is also made to act as a support, substantially as and for the purposes set forth.

Third, the arrangement of the guards G with the racks R, and pinions *w*, substantially in the manner herein shown and described and for the purposes set forth.

**72,324.**—W. PAULY, College Point, N. Y.—*Comb.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The combination of the two side combs with the spring by which they are connected, substantially as described.

**72,325.**—CHARLES O. PIKE, North Leverett, Mass.—*Belt Fastener.*—December 17, 1867.—The half collar has T-headed projections, which traverse slits in the ends of the belt. The ends are laid together, both turning outward, and are secured by a wedge plate having slots to receive the shanks of the projections. When tightening, the slits are extended at one end, and that end being clamped in one jaw of the frame, the other jaw is placed against the bend of the attachment; the end is then drawn forward and the wedge plate re-driven.

*Claim.*—First, the half-collar *a* and the clamping wedge *c*, for fastening the ends of a belt, constructed and operating substantially as described.

Second, the double levers *d d'*, constructed and operating as described, in combination with the above fastening device.

**72,326.**—HENRY L. PLUMB, Hamer, Ohio.—*Portable Evaporator.*—December 17, 1867.—The section of the pan immediately above the fire has a longitudinal partition dividing it into two compartments, which have communication through a perforated plate. The whole device is mounted on wheels. The pan has several transverse partitions, and has a cover, which may be secured by bolts and a rubber gasket for steaming vegetables. The cover has pipes for passage of water and steam.



*Claim.*—The longitudinal partition F over the fire chamber, as and for the purpose set forth.

The grate J, constructed and operating in the manner shown and described.

The damper, arranged and operating in the manner shown and described.

Surrounding the fire box of a portable evaporator with a jacket of sand or earth, substantially in the manner and for the purpose set forth.

In combination with the fire box and evaporating pan of a portable evaporator, the cover I, secured in place by screws or clamps, and provided with pipes *b b*, or their equivalents, for the purpose set forth.

**72,327.**—H. K. PORTER and T. W. PORTER, Boston, Mass.—*Vise.*—December 17, 1867.—The lever has an axial spring pin bearing against it, which is inserted in the socket and kept in by a screw pin.

*Claim.*—First, controlling the sliding levers of vises by means of a spring, whose pressure may be varied at will by a screw inserted in the head of the vise-screw, substantially as set forth.

Second, the combination of the plunger, the spring, and set screw, substantially as and for the purpose described.

**72,328.**—G. RENEKY and J. KEISS, Cedar Falls, Iowa.—*Washing Machine.*—December 17, 1867.—The suds box is cylindrical and vertically ribbed, and operates in combination with a radial winged shaft having at its lower end a ribbed disk of nearly equal circumference to the box.

*Claim.*—First, the vertical shaft D, having vertical wings or flanges E rigidly attached to it, and perforated disk C, having radial flanges F rigidly attached to it, said shaft and disk being rigidly connected together, in combination with the corrugated tub A, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the crank M, shaft K, bevel gear wheels N and I, and cover G with each other, with the winged or flanged shaft D and flanged disk C, and with the corrugated tub A, substantially as herein shown and described and for the purpose set forth.

**72,329.**—S. B. RITTENHOUSE, Plymouth, Ind.—*Hoisting Jack.*—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, the spring *g*, secured between the sides of the box A, and forming its front side, arranged in relation therewith, and with the pawl *f*, as herein shown and described.

Second, the construction and arrangement of the box A, spring *g*, pawl *f*, projection B' upon hoisting bar wheels *b*, cog shaft C, shaft D, and pinion E, as herein set forth and for the purpose specified.

**72,330.**—WILLIAM F. SHANKS, Louisville, Ky.—*Brick Machine.*—December 17, 1867.—The clay is fed from the hopper between the rollers in a continuous stream, and is carried by the endless belt to the shifting frame. While upon this frame, and immediately beneath the adjustable mold tops, the sides of the mold descend and cut the bricks into form, the sliding plate passing from beneath leaves the bricks upon the belt, by which they are carried off.

*Claim.*—First, the combination of the parts H I I Q Q R R, uprights P P, thumb screws N N, cross-pieces J J, uprights K K, and sliding plate G, substantially as described and for the purpose specified.

Second, in combination with the above the rod *m*, attached to the crank B, belt S, cogs *b*, and rod E, substantially as described, for the purpose specified.

Third, the sliding plate G, operated by means of the cogs D and rod E, substantially as described for the purpose specified.

Fourth, the rollers A A, adjusted by means of the cogs *b* and crank wheel B, whereby the thickness of the stream or column of mud is regulated, substantially as herein shown and described.

**72,331.**—HENRY W. SHIPLEY, Portland, Oregon.—*Water Wheel.*—December 17, 1867.—The water is received at the periphery on the central series of buckets and upon a portion of the upper and lower series contiguous thereto. The water passes horizontally through the central series of buckets and upward and downward through the upper and lower series re-

spectively. From the two upper series it enters the central part of the wheel, and acts on inclined buckets in the lower part of the cavity.

*Claim.*—The combination and arrangement of the conical hub F and radial buckets C C, when arranged at the bottom of the shaft A, with the upper ring *r*, constructed with exterior and interior flanges of the shape described, the lower ring *r* and the exterior buckets D E E forming a water wheel which operates in the manner and for the purposes specified.

**72,332.**—S. W. SHOREY, Galesburg, Ill.—*Inside Window Blind.*—December 17, 1867.—The edges of the slats are attached to webbing cords, and they are folded together by an outer frame, which is connected by links to the main frame; the moving frame is raised to fold the slats. The slats are drawn up by cords, similarly to venetians.

*Claim.*—First, an inside window blind, constructed, arranged, and operating substantially as herein shown and described.

Second, the combination of the frame A, having the grooves *a*, webbing *c*, slats D, frame B, and hinges C, as herein described, for the purpose specified.

Third, the combination of the adjustable frame B with the grooved frame A, for closing, and holding in a closed or partially closed position, the slats of a window blind, as herein shown and described.

**72,333.**—JOHN STARK, Thomasville, Ga.—*Seed Planter.*—December 17, 1867.—The seed box is upon a frame hinged to the front end of the wheel frame. The axle of the front wheel has a crank, by which the seed mechanism is actuated. The devices are further explained by the claims and illustration.

*Claim.*—First, the arrangement of the vertical arbor *e*, carrying revolving arms *j* and *l* respectively below and above the bottom of the seed box, substantially as herein shown and described.

Second, the frame F of a seed planter, when hinged to a supporting frame A, and when connected with the same by means of supports *b b*, all made and operating substantially as herein shown and described.

Third, the funnel-shaped lower part I of the seed box, when secured to the frame F, in combination with the hopper J secured to the frame A, all made and operating substantially as herein shown and described.

Fourth, the driving wheel C of a seed planter, when connected by means of suitable rods or shafts with the revolving arbor *e*, having the arms *j* and *l*, all made and operating substantially as herein shown and described.

Fifth, the fertilizer box, when arranged substantially as herein shown and described, in combination with the seed box H, driving wheel C, and frames A and F, all made and operating substantially as herein shown and described.

Sixth, the arrangement and combination with each other of the plow N, tube *r*, shares O, flattener P, adjustable marker R, seed dropper J, shares S, and roller D, all made and operating substantially as herein shown and described.

**72,334.**—NICHOLAS STARR, Jr., Homer, N. Y.—*Harrow.*—December 17, 1867.—The harrow has four hinged side bars and a diagonal draw bar by which they are adjusted.

*Claim.*—First, constructing a harrow of four sides, in two sections or divisions, and each division composed of two sides hinged together, and said divisions connected at the diagonal corners to form a single square harrow.

Second, the connecting or coupling rod *c*, with its bolts at either end, to connect such divisions together and keep the sides expanded.

**72,335.**—DAVID STEWART, Kittanning, Pa.—*Manufacture of Iron.*—December 17, 1867.—Explained by the claim.

*Claim.*—Purifying pig iron or blast furnace metal from its carbon and other impurities by passing it in a stream through ozone, atmospheric air, or other oxygen-bearing gas or vapor, substantially as and for the purposes hereinbefore described.

**72,336.**—B. T. STOWELL, Quincy, Ill.—*Excavator.*—December 17, 1867.—Explained by the claim.

*Claim.*—An excavating or ditching machine, constructed substantially as herein described, with cut-



ters at each end, arranged to cut in either direction, as the machine moves backward or forward, and which delivers the earth on to a common carrier or revolving apron, substantially as described.

**72,337.**—HARRY STROUD, Jr., Clinton, Ill., assignor to himself and R. W. ROBINSON.—*Tire Heater*.—December 17, 1867.—An annular fire space receives the tire, and a cover containing escape flues may be let down upon it to preserve the workmen from the heat and carry off the smoke.

*Claim.*—The flues E E and damper D, in combination with the lid B and chamber A, the whole combined and operated substantially as and for the purpose set forth.

**72,338.**—CLARK M. TERRELL and NATHAN W. HUSSEY, Oskaloosa, Iowa.—*Churn*.—December 17, 1867.—The churn is cylindrical and fixed to a base piece on which is a post giving fulcrum support to the dasher lever. The dasher staff has a pivoted plate at top which has a series of holes for traverse of the pin connecting it to the lever.

*Claim.*—The combination of the grooved base A, churn G, standard B, with button E' and lever C, provided with an adjustable metal plate D for connecting the dasher E, the whole constructed, arranged and operating in the manner as specified.

**72,339.**—JOEL TIFFANY, Albany, N. Y.—*Base-burning Stove*.—December 17, 1867.—The stove has various concentric cases forming flues and passages for heating and conduction of cold air and hot air mingled with gas from the fuel chamber.

*Claim.*—The use or employment of downward streams or jets of hot air upon the surface of the burning fuel, in combination with lateral streams or jets of cold air taken over the top, through the sides or otherwise, of the fire-pot, and specially directed or conducted, by means of tubes, projecting plates, or other equivalent means, so as to meet the streams or jets of hot air at the point of impingement upon the surface of the burning fuel, substantially as set forth.

**72,340.**—SIDNEY S. TURNER, Westboro', Mass.—*Piston Rod Packing*.—December 17, 1867.—The packing is made of rubber and surrounded by a shell which is vertically slotted to admit steam outside the packing to press it against the rod.

*Claim.*—The tubular elastic packing, confined rigidly by its ends so arranged as to be compressible laterally against the rod by the direct action of the steam or other medium of pressure, substantially as and for the purpose set forth.

**72,341.**—JOSHUA WALKER, Kansas City, Mo.—*Clothes Dryer*.—December 17, 1867.—The hinged frame on which the clothes are supported is raised by a cord running over a sheave attached to the supporting frame.

*Claim.*—The frames A A' and B, the cord C and sheave c, when combined and arranged as set forth.

**72,342.**—GEORGE W. WALKER, Boston, Mass.—*Cooking Stove*.—December 17, 1867.—In rear of the flue behind the oven is a hot-air flue having an inlet at the upper end from which the air is carried into the lower part of the oven, being heated in its passage and then discharged into the smoke flue. The oven door has a shelf attached to support a bake pan. A sifting grate with diagonal bars is placed beneath the fire grate.

*Claim.*—In combination with a flame and smoke flue at the back of the oven, an oven-ventilating flue or flues, arranged to operate substantially as set forth.

Also, a provision upon the oven door for swinging articles into and from the oven, and arranged to be folded out of the way when not in use, substantially as set forth.

Also, in combination with the fire-pot and ash-pit, the sifting chamber, provided with a sliding grate, substantially as set forth.

Also, in combination with such sliding grate, the opening at the end of the sifting chamber for obtaining access to the grate, in connection with a protecting wall or plate, substantially as described.

Also, in combination with such sifting grate, the scraper bar, to dislodge the coal when the grate is drawn out, substantially as set forth.

Also, the construction of the sifting grate with diagonal bars, substantially as and for the purpose set forth.

**72,343.**—PHILIP WECK, Brooklyn, N. Y.—*Tidal Water Elevator*.—December 17, 1867.—When the tide rises the hoisting box is filled through the valve port in its lower part. The buoy and box are both raised with the tide, the weight taking up the slack of the chain. When the tide falls the weight of the buoy raises the hoisting box. When the hoisting box is raised above the level of the receiver the valve lever strikes the ratchet wheel and opens the valve to discharge the water into the receiver; a slight further elevation trips the pawls and allows the buoy and box to descend.

*Claim.*—First, the box F and buoy J, in combination with the chain E and weight G, toothed pulleys D D' H, ratchets K K', and pawls L L' P, all arranged to operate in the manner substantially as and for the purpose set forth.

Second, the pendant S attached to the pawl L, in connection with the rods M R which connect the pawls L L' P to insure a simultaneous detachment of said pawls from their ratchets K K' O, and a simultaneous application thereto, substantially as and for the purpose specified.

Third, the float V, connected with the valve lever T in box F, and arranged to operate in the manner substantially as and for the purpose set forth.

Fourth, the supplemental chain U U\*, applied to the chain E and buoy J, substantially as and for the purpose specified.

**72,344.**—THOMAS WELCH, Churchville, N. Y.—*Pitman*.—December 17, 1867; antedated June 17, 1867.—The socketed head of the pitman is cast with the rod. The socket has a concavity at one side and a concave-ended set screw at the other. The crank-pin boxes have convexities resting in these concavities.

*Claim.*—First, a skeleton or shell pitman for harvesters, made of suitable cast metal, the skeleton or shell head to receive the crank-pin box, being cast to and with the pitman, for the purposes set forth.

Second, the crank-pin boxes with spherical bearings, in combination with a pitman head having a suitable concavity, as and for the purposes specified.

Third, a set screw having a concave end, when used with the pitman head and crank-pin box in harvesters, for the purposes set forth.

**72,345.**—ISAAC H. WELLS, Pagetown, Ohio.—*Protecting Likenesses in Monuments*.—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, the elastic packing C c c<sup>1</sup> c<sup>2</sup> c<sup>3</sup>, applied and compressed between the several parts of the frame and the frame and stone, substantially as and for the purpose specified.

Second, the combination of the bars D, holes b<sup>4</sup>, screws d, back E, and flange b<sup>3</sup>, substantially as described.

Third, in combination with the frame B, the removable door or shutter F for excluding light from the surface of the picture, when the same is constructed and applied substantially as set forth.

**72,346.**—PETER WENDHISER, Rockville, Conn.—*Box for Preserving Corpses*.—December 17, 1867.—The body is supported on the table and covered by the semi-cylindrical metallic sheet, so that ice can be placed all around. The aperture in the top allows a limited view and the circulation of air.

*Claim.*—The corpse-table C, provided with the removable metallic cover E having the opening F, when said table is supported upon legs D, and placed within the wooden box A lined with the metallic lining B, and provided with the water-outlet pipes H, all constructed as described, for the purpose specified.

**72,347.**—JACOB WERTSBAUCHER, La Grange, Ind.—*Locking-knob Latch for Doors*.—December 17, 1867.—The spindle has an axial passage from end to end. The latch bolt has a segmental frame on which a spring acts to force out the latch. A segmental bar slides in the segmental part of the frame and acts as a dog to prevent the retraction of the bolt. The dog is retracted by turning the knob, when the



jointed key is inserted into the lock through the spindle.

*Claim.*—First, the curved dog G, constructed substantially as herein shown and described, in combination with the sliding frame D, as and for the purpose set forth.

Second, the hollow stem or tube J, having a slotted arm K attached to or formed upon it, substantially as herein shown and described, and for the purpose set forth.

Third, the combination of the plate L, with its adjustable ward or wards, with the hollow stem J and slotted arm K, substantially as herein shown and described and for the purpose set forth.

**72,348.**—J. M. WHEELER, Oxford, Conn.—*Steam Jet for Cleaning Boiler Tubes.*—December 17, 1867.—The head has inclined slots emitting steam in thin sheets. The heads are attached to rigid pipes for convenience of handling, and these pipes are connected to the boiler by flexible pipes.

*Claim.*—The head A, constructed with inclined slots or openings, substantially as herein shown and described, and for the purpose set forth.

**72,349.**—WILLIAM N. WHITELEY, Jr., and ANDREW WHITELEY, Springfield, Ohio.—*Harvester.*—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the spring t, or its equivalent, with a harvester's clutch lever, for the purposes specified.

Second, the combination of the adjustable piece p with the rear end of the harvester's tongue, substantially as set forth.

Third, attaching the draft bolt R, Fig. 3, by which the team draws the machine, to the outer side of the tongue, (that next the uncut crop,) to obtain the advantages stated.

Fourth, the combination of an adjustable draft-point, by which the team draws the machine, and an adjustable driver's seat, and a detachable grain platform, in a harvester.

Fifth, the construction and connection of the main frame and driver's seat of a harvester in such a manner that this seat can be shifted from one to another of the herein-described places upon the frame, for the purpose stated.

Sixth, the platform B, or an equivalent thereof, constructed and connected to the finger bar and divider, in the manner and for the purpose set forth.

Seventh, the following arrangement of parts in a harvesting machine: The finger bar, substantially at right angles to its line of forward movement; the grain wheel, located so that some portion of its hub shall be in the same vertical plane with the finger bar; the finger bar further backward than the axle of the cutter's driving wheel; the grain wheel, placed so that its tread shall be as far inward as the point of the divider; a supporting metal plate, which always has a portion lower than the finger bar and firmly secured thereto, while the divider and part of this plate are firmly connected by screw bolts.

Eighth, the adjustable guiding board K, constructed and connected to the divider, as shown and described and for the purposes specified.

Ninth, constructing and connecting a journal of a harvester's reel shaft to said shaft, substantially as described, for the purposes specified, whether the reel pulley be made a part of this journal or not.

Tenth, in a harvester rake, the outer tooth of which moves over the platform faster than the inner tooth, and the points of the teeth faster than their other ends, connecting the inner end of the rake head to the main frame by means of a ball-and-socket joint, or its equivalent, the moving parts of which can always be kept in snug working order, as set forth.

Eleventh, making the post I', (provided with a ball at its upper end,) or an equivalent thereof, laterally adjustable, as and for the purpose described.

Twelfth, making the post I', (provided with a ball at its upper end,) or an equivalent thereof, vertically adjustable, as and for the purpose set forth.

Thirteenth, placing the centre of motion of a harvester's automatic rake at the front edge of the head of said rake, as and for the purposes specified.

Fourteenth, making the pitman by which a harvester's automatic rake is moved, when discharging

the gavels from the platform, in two or more parts, and substantially as described.

Fifteenth, in combination with a harvester's automatic rake, which has the outer tooth moved over the platform faster than the inner tooth, and removes the gavels head foremost, a guiding arch X, which is above the rake head, and further inward than the inner tooth, and by which said rake is raised up above the platform during its forward stroke.

Sixteenth, the arch X, constructed and combined with arch y, substantially as shown and described, for the purposes specified.

Seventeenth, the combination of a guiding arch X and the rake carrier 3, or an equivalent thereof, with a harvester's automatic rake, which has the outer tooth moved over the platform faster than the inner tooth, and removes the gavels heads foremost.

Eighteenth, combining with a harvester's automatic rake, which has its outer tooth moved over the platform faster than the inner tooth, and removes the gavels heads foremost, an arch, to carry the rake forward over the next gavel, when said device is provided with a latch which drops behind a part of the rake head as it passes backward, and compels said rake to come forward over the next gavel.

Nineteenth, the combination of the spring 8, carrier 3, and arch X, or an equivalent arrangement of parts, with a harvester's automatic rake that has the outer tooth moved over the platform faster than the inner tooth, and removes the gavels heads foremost, for the purposes specified.

Twentieth, making the latch spring 8 adjustable, for the purposes specified.

Twenty-first, the combination of the adjustable gauge plate 5 with the front portion of the arch X, for the purposes specified.

Twenty-second, the combination of the spring b, or an equivalent thereof, with a harvester's automatic rake, the outer end of which moves upon a center at the inner end, and is carried forward over the cut grain by means of the arch X, or an equivalent thereof.

Twenty-third, the rake projector 4, constructed as described, and connected with the head of a harvester's automatic rake, for the purposes specified.

Twenty-fourth, the raker's adjustable and removable foot board, constructed and connected to the main frame substantially as shown and described, for the purposes specified.

Twenty-fifth, the adjustable raker's seat or stand 8', constructed and connected to the machine as shown and described, for the purposes specified.

**72,350.**—G. WIDDICOMB, Grand Rapids, Mich.—*Spring Bed Bottom.*—December 17, 1867.—The slats are attached to rocking blocks at each end; the blocks are connected to the rails by elastic pieces of leather or rubber. Brace springs attached to the head and foot rails are connected to the slats.

*Claim.*—The combination of the slats or long springs C, short springs G, and blocks D, hinged to the blocks or bars E by elastic hinges F, with each other and with the frame A B, substantially as herein shown and described and for the purpose set forth.

**72,351.**—F. S. WILT, Allentown, Pa.—*Boot Tree.*—December 17, 1867.—The tree is divided transversely, and the wedge blocks act on the inclined surfaces and levers to expand the foot and leg.

*Claim.*—First, the bar E, the plates e f and g, constructed and arranged as described, in combination with the curved or convex surfaces c and d, for the purposes set forth.

Second, the slide J and the lever h, arranged and operating as shown and described, in combination with the bar E and plates f and g.

**72,352.**—ROBERT WRIGHT, Philadelphia, Pa.—*Brick for Pavements, &c.*—December 17, 1867.—A metallic advertising device in the brick appears on the surface of the sidewalk.

*Claim.*—A clay brick, having pieces of metal set into it and coming to its surface, substantially as and for the purposes herein set forth.

**72,353.**—JOHN ZIMMERMAN, Royalton Centre, N. Y.—*Coffee Pot.*—December 17, 1867.—The water is placed in the pot and the coffee in the strainer; the



steam rises in the foraminous end of the inverted funnel, and becoming condensed runs back through the coffee.

*Claim.*—The coffee pot above described, consisting of the boiler A, chamber D, strainer E, cover F, and tube G, bearing the chambers H and I, all arranged and combined substantially as and for the purpose specified.

**72,354.**—JOHN ZIMMERMAN, Royalton Centre, N. Y.—*Culinary Boilers.*—December 17, 1867.—The frusto-conical vessels are placed in a cylindrical shell so as to furnish means of cooking various materials without interfering with each other.

*Claim.*—First, the boiler A, having the central cone C with perforated top, substantially as and for the purpose described.

Second, the detachable and foraminated bottomless vessels E G, substantially as and for the purpose described.

Third, the vessels Q S, substantially as described.

Fourth, the arrangement and combination of the boiler A, having the central cone C, with the cylinders D and F, or either of them, containing the bottomless vessels E G and the enclosed cooking vessels, substantially as and for the purpose described.

**72,355.**—HENRY A. ALDEN, Matteawan, N. Y., assignor to NEW YORK RUBBER COMPANY.—*Manufacture of Base Balls.*—December 17, 1867.—To rubber, 1 lb., is added sulphur,  $\frac{1}{2}$  oz.; carbonate of lead,  $\frac{1}{4}$  lb.; and a quantity of ground cork. After thorough mixing the compound is pressed in a mold of the proper size for a ball and heated to the vulcanizing point.

*Claim.*—First, a compound formed of rubber mixed with the ingredients herein named or their equivalents, in the proportions substantially as specified, which when vulcanized will have the hardness and elasticity required for base balls or other like articles, substantially as set forth.

Second, a base ball or other like article made of the compound herein specified, the said compound being molded to the form required, and vulcanized, substantially as set forth.

**72,356.**—JONATHAN BALL, Elmira, N. Y.—*Manufacture of Smoking Tobacco.*—December 17, 1867.—The tobacco is soaked in a weak mixture of honey and water, and then dried sufficiently for manufacture.

*Claim.*—The mode herein specified of preparing smoking tobacco.

**72,357.**—CYRUS W. BALDWIN, Boston, Mass.—*Apparatus for Preparing Peat.*—December 17, 1867.—The side of the open-top drum is perforated for escape of the water forced against it by the rotation of the drum. Around the side are a series of perforated partitions, into which the peat is driven by centrifugal force. The cylindrical bell is placed on the peat for the introduction of heated air into the drum, and by its descent to remove excrescences from the inner side of the blocks.

*Claim.*—First, the method, herein described, of effecting simultaneously the desiccation of peat and its formation into bars or blocks by subjecting the said peat to the action of centrifugal force within a vessel constructed and operating substantially as shown and specified.

Second, the peat-receiving vessel, and diaphragm or partitions within the same, in combination with the bell B, substantially as and for the purposes shown and specified.

**72,358.**—J. W. BARLOW, United States army.—*Tripod for Surveying Instruments.*—December 17, 1867.—The tripod has an annular disk top, and the edges of the two central disks lap over the inner edge of the annulus and allow lateral adjustment in any direction.

*Claim.*—Producing lateral adjustment on the tripod by means of the clamping plates or surfaces B B and the tightening screw C, substantially as and for the purpose herein specified.

Also, the central vertical aperture *d* through the adjusting screw and nut, and through the adjusting plate, for applying a plumb and line, substantially as set forth.

**72,359.**—M. L. BASSETT, West Haven, Conn., assignor to himself and EGBERT E. PARDEE, same place.—*Well Tube.*—December 17, 1867.—The lower end of the pump tube is connected to the upper end of the well tube by an elbow, and has at the lower end a drip; above the opening into the well tube is a conical gauze filter.

*Claim.*—The arrangement described of the drip tube F and well tube A with the tube B when the said tube B is provided with a conical strainer or filter E, substantially as herein set forth.

**72,360.**—EDWIN L. BRADY, New Orleans, La.—*Dredge Boat for Excavating Rivers.*—December 17, 1867.—The boat is sunk to the required level by introduction of water into the compartments, and the mud is stirred up in the channel by the steam-driven mud screws.

*Claim.*—First, a dredging boat constructed with a series of water-tight compartments, so proportioned and arranged that as they are filled with water the boat shall preserve an even keel and the dredging mechanism be brought into action without any adjusting devices, substantially as set forth.

Second, the combination of the "mud fan" A, attached to a rigid shaft, and a boat containing a series of water-tight compartments E, so adjusted as to cause the boat to settle on an even keel as the compartments are filled with water, and a pump B for exhausting the water from all the compartments, substantially as set forth.

**72,361.**—CHARLES BURLEY, Cincinnati, Ohio.—*Combined Low Water Indicator and Safety Valve.*—December 17, 1867.—The weighted end of the safety-valve lever has a tubular portion forming communication between a tube descending to the low-water line in the boiler and a globe containing water, which acts as the valve weight. When the water in the boiler falls below the proper level the steam takes its place in the globe, and the valve is opened by an adjustable weight at the other end of the lever.

*Claim.*—First, the safety valve C', affixed to a gravitating pipe C C', which communicates with the water space, and is provided with a graduating lever F, in the manner and for the purpose set forth.

Second, the arrangement of bent tube C C' and valve C', globe D, bar E, and adjustable weights K, substantially as herein set forth.

**72,362.**—JOHN BUSER, New York, N. Y.—*Loom for Circular Weaving.*—December 17, 1867.—The operation cannot be briefly described. The novelties are indicated by the claims.

*Claim.*—First, a series of warp movers acting radially and moved by the mechanism shown, in combination with a shuttle revolved between the warp threads by the gearing, arranged and operating as set forth.

Second, the arms *e* in combination with the shafts  $g^1 g^2$ , and disengaging mechanism for stopping the machine if a warp thread breaks, substantially as set forth.

Third, the bow 19 applied in the shuttles, in combination with the disengaging mechanism, substantially as set forth.

**72,363.**—A. S. CAMERON, New York, N. Y.—*Steam Pump.*—December 17, 1867.—The guide rod of the valves passes vertically through the top and both chambers of the valve chest; its lower end entering a socket in the lower seat. It has a shoulder resting upon the upper seat. Its upper end is secured by a screw cap. The valves are depressed by spiral springs.

*Claim.*—First, the guide rod D resting in a socket F in the seat of one valve, and extending through the seat of the other valve, and operating in combination with the valves B B, substantially as set forth.

Second, the projection H on the inner surface of the lock nut G, in combination with the case A, guide rod D, valves B B, and valve seats C C, substantially as and for the purpose described.

**72,364.**—J. F. CANNING, Boston, Mass.—*Binder for Paint Brushes.*—December 17, 1867.—The binding and a portion of the bristles are covered by a canvas ferrule, which is partially cut away over the binding to reduce the bulk.



*Claim.*—The binder D, as made and applied, when coated with a mixture composed of shellac and mastic dissolved in alcohol, in the manner and for the purposes set forth.

**72,365.**—N. W. CAUGHY, Baltimore, Md.—*Knife.*—December 17, 1867.—The tang has a slot for traverse of a pin passing through the handle, and is extensible. The tang has also notches engaged by a pivoted dog when in its extended or contracted position.

*Claim.*—As a new article of manufacture a knife, constructed and arranged to operate substantially as herein shown and described.

**72,366.**—GEORGE CHAMBERS, Ithaca, N. Y.—*Finishing Wood.*—December 17, 1867.—A semifluid mass is made of boiled linseed oil, litharge, and a small quantity of chalk. A clean and smooth piece of wood has its pores filled with the above by well rubbing. A thick dusting of plaster of paris is then added, and the surface rubbed smooth. Coloring may be added to imitate wood of different colors.

*Claim.*—The preparation made of the ingredients and colors, and used substantially in the manner and for the purposes specified.

**72,367.**—C. THURSTON CHASE, Albany, N. Y.—*School Desk and Seat.*—December 17, 1867.—The desk is supported on one front and two rear legs, so as to leave an open space beneath the end of the desk for passage of the legs of the pupil when leaving his seat. The ends of the seat are hinged to a horizontal bar connecting the front leg of one desk to a bar connecting the rear legs of the adjoining one.

*Claim.*—The combination and arrangement of the standard D with the hinged seats C C', horizontal bar o, and desk A, substantially as and for the purposes set forth.

**72,368.**—JAMES J. CHRISTIE, Baltimore, Md.—*Glass Bottle Mold.*—December 17, 1867.—The movable slide carries the device to be impressed upon the bottle, and is adjustable by a set screw.

*Claim.*—First, the movable panel or slide E used in combination with the mold, either upon its sides or bottom, and provided with suitable inscriptions, substantially as set forth.

Second, the bed plate B provided with the openings a a, to allow of the escape of small particles of glass, substantially as herein set forth.

**72,369.**—B. O. CHURCH and HERVEY SMITH, Brattleboro', Vt.—*Organ, &c.*—December 17, 1867.—The key acts on a vertical pin traversing the key board. The end of the pin rests on the shorter end of the valve lever.

*Claim.*—The beveled piece E, in combination with the levers C, frame B, and screw pins a, forming a fulcrum for the levers C, and holding them in place by means of the pins k, substantially as shown and described.

**72,370.**—BEVERLY R. CODWISE, Montrose, Md.—*Wagon Brake.*—December 17, 1867.—The lever is connected by a pitman to arms on a rock shaft having other arms connected to a brake bar; the lever is in the tongue, and is held to locking position by a ratchet rack.

*Claim.*—The combination and arrangement of the lever K with the tongue of a wagon, a ratchet or catch plate thereon, a sliding brake bar and brakes operating against the front wheels of the wagon, and an intermediate crank, having suitable connecting rods, all substantially as and for the purpose herein set forth.

**72,371.**—ELEAZAR COFFIN, Flieksville, Pa.—*Machine for Rounding the Corners of Slate Frames.*—December 17, 1867.—The rotary cutter has a circumferentially grooved periphery, and is journaled in a swinging frame to allow the necessary movement.

*Claim.*—First, the pulley frame B, belt K, and spring O, or equivalent, in combination with the mandrel M mounted on a swinging frame N, and the operating key R, or its equivalent, substantially as and for the purpose described.

Second, the swinging frame N, carrying the cutter head P, for the purpose substantially as described.

**72,372.**—MOSELY S. CURTIS and GEORGE W. HARRIS, New York, N. Y.—*Nozzle for Hose.*—December 17, 1867.—The nozzle is surrounded by a series of tongues, whose segmental racks engage a single ring gear. The tongues may be turned out to permit an unbroken stream, or turned inward to form a spray.

*Claim.*—The tongues e, stems b', and toothed sectors c, in combination with the body A, and the annular rack m of the shell D, substantially as and for the purpose specified.

**72,373.**—WILLIAM DANIELS, Brooklyn, N. Y.—*Binding Books.*—December 17, 1867.—A strip of muslin is applied to the fold of the inner pair of leaves in a sheet, so as to prevent tearing out.

*Claim.*—The strip of cloth applied to the fold of the central sheet of the section of a book, in combination with a long slot or opening in said sheet of paper at the fold, for the reception of the thread used in sewing the book, as specified.

**72,374.**—LEVIS H. DAVIS, Newark, Del., assignor to CASTRO & CO.—*Grain and Straw Separator.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The combination, substantially in the manner described, of the screens having a reciprocating, longitudinal, undulating motion, with the interposed center bar, having a rectilinear reciprocating movement, for the purpose of thoroughly agitating and rapidly discharging the straw.

Also, the notched reciprocating center bar, arranged and operating as described.

**72,375.**—IRENEUS DONALDSON, Toledo, Iowa.—*Sulky Plow.*—December 17, 1867.—The frame has adjustable caster wheels in a line with the plow, and a larger side wheel upon whose axle the seat is placed.

*Claim.*—First, in combination with the plow and carriage frame, the compound levers I I' and casters H H' placed in front and rear of the plow for regulating the cut, substantially in the manner set forth.

Second, in combination with the driver's seat G, the oscillating arm L, cord K, and adjusting levers I I', arranged substantially as and for the purpose set forth.

**72,376.**—LEVI F. DRAKE and ENOCH EGGINTON, Portland, Me.—*Lamp.*—December 17, 1867.—The cone is of translucent material and has horizontal projections on its lower edge which engage in bayonet slots of the support. The chimney has grooves engaging side ribs of the cone.

*Claim.*—First, making the cone with the ribs and small projections at the bottom, as and for the specified purposes.

Second, the chimney fitting over the cone when held on the same, as specified and constructed with the grooves, as and for the purposes set forth.

**72,377.**—DELECTUS DUFEE, Fort Seneca, Ohio.—*Fruit Drier.*—December 17, 1867.—The drying chamber contains a stove in its lower part and has a vertical series of drawers to contain the fruit.

*Claim.*—First, the drawers L L arranged together within dovetailed grooves in the partition boards C C' and connected by the pins a in their rear rails, as and for the purpose set forth.

Second, the grooved and hinged supporters H, the drawers L L, the stays J, and arms I I, arranged and used as and for the purpose set forth.

**72,378.**—HERMAN EIFFLER, New York, N. Y.—*Padlock.*—December 17, 1867.—A lever stop is so arranged in combination with a series of loose tumblers that when the lever is turned in one direction the bolt is retained in locking position, but if the lever is turned in the other position the key may be inserted and the bolt unlocked. False tumblers are arranged between the other tumblers to prevent friction between them.

*Claim.*—The lever stop D, in combination with a series of loose tumblers B provided with hooks e and forming the bolt of a padlock, and loose false tumblers B, situated as described, the tumblers being operated by a key through the opening a in the side of the padlock to open or lock the same, substantially as and for the purpose set forth.



**72,379.**—ALFRED B. ELY, Newton, Mass.—*Warp-feeding Mechanism for Looms.*—December 17, 1867.—The warp passes between two rubber rolls, one of which has a ratchet wheel operated directly from a pawl on the lay.

*Claim.*—First, the feed rolls E F, arranged as described and operated directly from the lay, for the purpose set forth.

Second, the combination, substantially as described, of the yarn beam and lay with the rubber feed rolls actuated directly from the lay, for the purposes set forth.

**72,380.**—CHARLES R. ELY, Northfield, Vt.—*Head Block for Saw Mills.*—December 17, 1867.—The knees abutting against and operating the log have grooves which receive the upturned flanges on the inclined sides of the plates secured to a rack-bar. The plates have down-turned flanges on their straight longitudinal sides which slide in grooves of the head block. The rack receives motion from two pawls in a bar reciprocated by an arm hinged to a head upon a vertical shaft rocked by a lever.

*Claim.*—First, in combination with the transverse gauges of a saw-mill, the position of which determines the thickness of the material cut from the stock, the pawls *k* and *k'*, when arranged to operate substantially as described.

Second, a rack bar carrying two or more inclines rigidly secured thereto, substantially as and for the purpose set forth.

Third, the plates, constructed substantially as described, having a flange turned up in one direction on the inclined side, and a flange turned parallel with the rack bar on the straight side, and applied substantially as and for the purpose set forth.

Fourth, in combination with the pawls *k'* the detaining pawls *p*, when constructed and arranged to operate in connection with inclines and gauges, substantially as described.

Fifth, the combination of the pawls *k'* *k*, their traversing bar and their supporting lever, with the lever *h*, and its indicating segment and pins, constructed and operating substantially as described.

Sixth, in combination with the transverse gauges, the index finger and rotary scale, constructed and operating substantially as set forth.

**72,381.**—CHARLES N. FARNAM, Norwich, Conn.—*Machinery for Tanning.*—December 17, 1867.—The hides are raised from the vat by a frame hoisted by windlass ropes extending from a truck over head; the truck runs upon an elevated track to transfer the load from one vat to another.

*Claim.*—First, the winding of the ropes F F' on drums N N', one side winding over and the opposite side winding under the drums, thereby raising both side of the frame G equally, substantially as shown and described.

Second, arranging the shaft to which the motive power is applied by the combination of wheel L and pinion P, having a ratchet *p* and pawl *p'*, worked by a windlass M, all arranged so as to pass the posts, thereby avoiding interference in transition from vat to vat, as specified.

Third, the construction of the frame G I I', having a shoulder to rest on sides of vat, with lower edge of ends I and movable bars I' of the frame immersed in the liquor in the vat, when the frame is down, substantially as shown.

Fourth, the two forms of hooks J J', one for ends of frame and one for movable bars, keeping the hides or skins at a suitable distance from each other, so that they will increase in thickness on exposure to the air when raised, and during the process of tanning; also, allowing the hides or skins to drain when raised from the vats, thereby facilitating absorption, substantially as herein described and for the purpose specified.

**72,382.**—D. D. FOLEY, Washington, D. C.—*Pen Holder.*—December 17, 1867; antedated November 13, 1867.—Explained by the claim and illustration.

*Claim.*—Two pens, so united or fastened together, back to back, in a holder or socket as to form a fountain or reservoir between the nibs or points, substantially as set forth.

**72,383.**—J. B. GARDINER and EDWARD H. HYDE, Springfield, Mass.—*Steam Pump.*—December 17, 1867.—The slide valve is operated by two steam pistons attached together and moved by steam, let on at either end by a secondary valve, operated directly by a steam piston. To this piston a plunger may be directly attached.

*Claim.*—First, the arrangement of the valves E and H, pistons G G', ports *f* and *e*, *e'* and *f'*, *y* and *z* *y'*, and *z'*, substantially as herein set forth.

Second, the arrangement, in connection with the said valve gear, of the valve rod *c*, steam piston A, plunger B, and reservoir C, substantially as set forth.

**72,384.**—J. B. GAYLE, Raleigh, N. C.—*Oil Can.*—December 17, 1867.—The tubular handle has a plunger, which is depressed by the thumb to force the oil from the nozzle. The plunger is connected to the stem of a valve near the point of the nozzle; the valve is opened simultaneously with the depression of the plunger.

*Claim.*—The rods D D', with the packing, as described and used with the can A and handle C', said rods being provided with cone-shaped top and coil spring *x*, respectively, and operated in the manner substantially as and for the purposes described.

**72,385.**—RODMOND GIBBONS, San Francisco, Cal.—*Strap Fastener.*—December 17, 1867.—The ends of the elastic straps are confined between two plates, one of which has a depression and the other a rib, which is forced with the ends of the strap into the said groove.

*Claim.*—The rapid fastening, composed of the two plates, or portions of plate confined together, one plate having a tooth or long spur which projects down into or towards a groove in the opposite plate, substantially as shown and described.

**72,386.**—ANDREW GILMORE, Phoenixville, Pa.—*Plow.*—December 17, 1867.—A wheel runs upon the bottom of the furrow, and has an eccentric whose rod is connected to the clearing blade and causes its oscillation.

*Claim.*—First, the clearing blade J, when constructed of two pieces *j j'* attached together in such a manner as to render the blade adjustable in length.

Second, the adjustable frame F, in combination with the wheel W and eccentric G, when used in connection with a plow, substantially in the manner and for the purposes specified.

Third, the combination of the adjustable frame F, wheel W, eccentric G, arm E, lever H, pitman I, and pivoted clearing blade J, when the latter is arranged to work on the left side of the coulter C, substantially as and for the purpose specified.

Fourth, the adjustable handles D D, when used in connection with a plow, substantially as and for the purpose specified.

**72,387.**—SAMUEL GISSINGER, Lawrenceville, Pa.—*Machine for Squeezing Puddled Balls of Iron.*—December 17, 1867.—The ball of puddled iron is thrown between the fixed and reciprocating jaws, and is rolled by their corrugations into the form of a bar.

*Claim.*—The corrugated jaws A and B, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

**72,388.**—SAMUEL GISSINGER, Lawrenceville, Pa.—*Machine for Squeezing Puddled Balls of Iron.*—December 17, 1867.—A frusto-conical burr is rotated in a vertically-ribbed coneave, having a spiral upsetting plate running around its face.

*Claim.*—Squeezers constructed, arranged, and operating substantially as herein described and for the purpose set forth.

**72,389.**—SAMUEL GISSINGER, Mauchester, Pa.—*Coal-boring Bit.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The bit or cutter A, provided with the entering-point B, scoring and cutting-points *e* and *f*, and guide *d*, substantially as herein described and for the purposes set forth.

**72,390.**—SAMUEL GISSINGER, Allegheny City, Pa.—*Coal Mining Machine Drill Carriage.*—Decem-



ber 17, 1867.—The coal is undermined by a series of rotating drills upon a sliding frame. The drills are fed to their work by a screw, clamped by a bisected nut, which is opened to admit the forward motion of the frame for further extension of the holes.

*Claim.*—The drill carriage, constructed as herein described, and provided with drill bars made operative through the medium of the wheels *w w<sup>1</sup> w<sup>2</sup> i h* and *g*, arranged and operating in the manner and for the purpose set forth.

Also, in combination with the above, the screw *e* and the clamp screw nut *x*, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

**72,391.**—WILLIAM HAGERTY, Monongahela, Pa.—*Ram for Vessels.*—December 17, 1867.—The point of the prow is withdrawn from any cavity formed in the hull of the other ship, by the releasing ram, which is thrust forward by screw gearing connected with the engine.

*Claim.*—The releasing ram *D*, provided with the shafts *f*, furnished with screw-threads *o*, said ram being made operative through the medium of the revolving nuts *e*, the whole being constructed and arranged substantially as herein described and for the purpose set forth.

**72,392.**—FRANZ HAIN, Casconade county, Mo.—*Machine for Feeding Nail Plate.*—December 17, 1867.—The plate has the same motions given to it as those communicated by hand. The horizontal forward movement is communicated by a falling weight; the semi-rotary reciprocating motion is imparted by a ratchet wheel and escapement.

*Claim.*—First, the support block *E* and adjusting piece *F*, constructed and combined substantially as and for the purposes set forth.

Second, the holder *D*, its boss *i*, combined with the block *E*, links *K<sup>1</sup>* *K*, arm *y*, and lever *Y*, when acting substantially as and for the purposes set forth.

Third, the combination of the adjusting piece *F* with the main frame at *f*, and with the guide bar *f<sup>1</sup>* and set screw *f<sup>2</sup>*, when acting substantially as and for the purposes set forth.

Fourth, the combination of the pawl *y*, the wheel *y<sup>1</sup>*, and lever *Y*, substantially as and for the purposes set forth.

Fifth, the combination of the disk *G*, pins *g*, and arms *g<sup>1</sup>*, and vertical shaft *g<sup>2</sup>*, substantially as set forth.

**72,393.**—ALBERT W. HALE, New York, N. Y.—*Machine for Cutting and Working Fibrous Substances.*—December 17, 1867.—The two cylinders have spiral cutters, which operate as shears together, and the case has segmental cutting ribs. The material is forced against a knife placed between the rollers. The shell is double and the inner wall perforated to enable the forcing of water into or through the machine.

*Claim.*—First, the making the flanges on the rolls thicker and of greater diameter at the feeding end of the machine than they are at the delivery end thereof, and the making of such flanges to gear into or lap by each other more deeply at the feeding end of the machine than they do at the delivery end.

Second, in combination with a machine for cutting or working soft and adhesive materials, operating substantially as described, the arrangement of a water chamber and distributing orifices *f f*, substantially as and for the purposes set forth.

**72,394.**—BENJAMIN J. HARTMAN, Wooster, assignor to himself and GEORGE LIGGETT, Jr., Wayne county, Ohio.—*Trace Fastener.*—December 17, 1867.—The tug has pins passing through the trace. A collar is slipped over the engaged portions of the tug and trace, and is kept in position by a spring catch.

*Claim.*—The plate *D*, as constructed, when used in combination with the tugs *A* and *C* and the keeper *F*, substantially as and for the purpose set forth.

**72,395.**—EDSON HARTWELL, Hubbardston, Mass.—*Rocking Chair.*—December 17, 1867.—The seat is supported upon the base by the toothed arms, and connected to the base by springs, so as to allow a rocking motion.

*Claim.*—First, the combination with the frames into which the chair is divided of the spiral springs

*II* and toothed arms *D*, arranged for operation in connection with the racks *G*, as and for the purposes set forth.

Second, the combination with the springs *II II* and cross-pieces *I* and *J* of the nuts *b b c c d d* and *e e*, substantially as and for the purposes set forth.

**72,396.**—WILLIAM HUNTINGTON, Howell, Mich.—*Animal Trap.*—December 17, 1867.—The animal passes under a wire drop-gate into a compartment, from which the only escape is through another drop-gate onto the supported end of a tilting metallic platform. It then falls into the brine tank. It is drawn in that direction by a light aperture.

*Claim.*—The arrangement and combination of the gated apertures *F G* and tilting platform *II* with the box compartments *C* and *D*, the latter being lighted, and containing brine or other antiseptic liquid, substantially in the manner and for the purpose herein specified.

**72,397.**—E. C. JAMES, Baltimore, Md.—*Road Locomotive.*—December 17, 1867.—The tread of the driving wheels consists of segments, each supported on a separate spoke.

*Claim.*—The combination of the open wheels with a road wagon, to be driven by steam, or other equivalent motive power, when operating substantially as required.

**72,398.**—P. C. INGERSOLL, Greenpoint, N. Y.—*Spring Bed Slat.*—December 17, 1867.—The sheet metal strips are supported on slats having spiral springs beneath them. The strips are kept extended by inclined springs at the head.

*Claim.*—The springs *f* and *g*, in combination with the sheet metal slat bars *B*, and arranged in relation to the end and horizontal portions of said slat bars, substantially as and for the purposes specified.

**72,399.**—HENRY C. INGRAHAM, Tecumseh, Mich.—*Ditching Machine.*—December 17, 1867.—Improvement on his patent October 23, 1866. Explained by the claims and illustration.

*Claim.*—First, the wheel *K*, when constructed with parallel flanges united only by bars *K<sup>1</sup>*, substantially as set forth.

Second, so connecting the driver's seat *Q* with the plow and frame, by means of the rods *G<sup>1</sup>*, that the weight of the driver, and mechanism behind the axle, shall counterbalance that placed in front of the axle, substantially in the manner set forth.

Third, the combination of the flanged wheel *K* with the belts *M* and *N*, between which the earth is elevated, substantially as set forth.

Fourth, the combination of the plow *L*, wings *L<sup>2</sup>*, belts *M* and *N*, and wheel *K*, substantially as set forth.

Fifth, the combination of a flanged wheel *K*, with bars, *K<sup>1</sup>*, and intermediate open spaces, with the carrying belt *N*, substantially as set forth.

Sixth, the combination of the lever *R*, wheel *R<sup>1</sup>*, plow *L*, lever *T*, and rod *T<sup>1</sup>*, substantially as and for the purpose set forth.

Seventh, the combination of the plow with the guides *R<sup>2</sup>* substantially as set forth.

Eighth, in combination with the wheel *K*, the adjustable extension slide *P*, substantially as set forth.

Ninth, the combination of the notched frame *O*, lever *O<sup>1</sup>*, pawl *S<sup>2</sup>*, rod *S<sup>1</sup>*, and foot lever *S*, substantially as set forth.

Tenth, the combination of the lever *II*, axle *G*, ratchet wheel *I* and pawl *I<sup>1</sup>*, said parts being constructed substantially as and for the purpose set forth.

Eleventh, in combination with the plow *L*, the adjustable shoe *L<sup>1</sup>*, substantially as and for the purpose set forth.

Twelfth, the combination of the flanged wheel *K*, belt *M*, hinged arm *M<sup>2</sup>*, pulley *M<sup>1</sup>*, and spring *M<sup>3</sup>*, arranged to operate substantially as set forth.

Thirteenth, so constructing the main frame that the wheels may, by folding the parts of the frame, be adjusted to a wider or narrower tread, substantially in the manner set forth.

**72,400.**—GUSTAV L. JAEGER, New York, N. Y.—*Cutting Tool.*—December 17, 1867.—The adjustable tooth and rest are connected to a stock which may be



attached to a lathe spindle or rest brace. It is for the purpose of forming a round tenon on the end of a shaft.

*Claim.*—The combination of the slotted and shanked stock A, guide frame with cutter B, bearing C, and screws b c, all arranged substantially as set forth.

**72,401.**—JOHN JOHNSON, Boston, Mass.—*Sled.*—December 17, 1867.—The sled has a hinged top which yields vertically but is prevented from lateral movement. Each runner has a rudder, the two being simultaneously acted on by cords connected to a tiller lever.

*Claim.*—A sled, in which the top or seat B is secured, at or near its forward end, to the front cross-bar by hinges b and b', while its rear end is supported by means of a spring c, when such is combined with a steering apparatus as described, the whole being constructed, arranged, and operated in the manner and for the purposes set forth.

**72,402.**—JOHN B. JOHNSON, Laurel, Ind.—*Fence.*—December 17, 1867.—The uprights are pivoted to the posts which extend but little above the surface. The feet of the braces are pinned to short posts, and attached to the uprights by light pins which give way to a current of water.

*Claim.*—The mode of constructing the fence, and sustaining it by pins C at the top of the braces, so arranged, in relation to the other parts, that they will first yield to force of currents of water, and permit the panels and braces to swing freely in the stream on the pins by which they are attached to the ground posts, substantially as set forth.

**72,403.**—Canceled.

**72,404.**—J. E. KENDALL, Plymouth, Ind., assignor to himself and CHARLES WHITMORE.—*Horse Rake.*—December 17, 1867.—The rake head is formed of hinged sections, the end ones being folded in when moving from field to field.

*Claim.*—The hinged rake head G G' G'', provided with teeth J J, and connected to the bar K by the springs M as described, said rake head being connected to the sulky frame, and adjusted by the toothed bar R and cord N passing over the pulley at the driver's seat, the whole constructed and operating substantially as described.

**72,405.**—CORNELIUS KINGSLAND, McKeesport, Pa., assignor to himself and I. K. MORANGE.—*Constructing Car Wheels.*—December 17, 1867.—A portion of the chill beneath the flange is cut away so as to allow the sand to be in contact therewith. The chill has radial recesses on its inner side, which give bearing for cores, by which dovetail recesses are formed in the wheel. These recesses are filled in with blocks of steel.

*Claim.*—The method herein described for constructing car wheels.

**72,406.**—A. S. KINNEAR, Volga, Ind.—*Scaffold.*—December 17, 1867.—The platform has anti-friction rollers which bear against the house wall, and it is sustained on brace beams extended by a rope and windlass upon the platform.

*Claim.*—The construction and arrangement of the frame B B, diagonal braces C C, plates D D, rollers d d, together with the sliding beams E E, thimbles e e, sheaves f g c k, cord a, gearing h, pawl n, ratchet o, cranks m x, and metallic shoes w w or their equivalents when in combination, substantially as and for the purposes specified.

**72,407.**—DAVID LYMAN, Middlefield, Conn.—*Clothes Wringer.*—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, in wringing or other like machines having cog wheels on each end of the roller shafts, providing said cog wheels with flanges or circular plates upon their exterior faces, as herein described, so that while preventing the meshing of the cogs beyond a certain limit they shall afford additional support and strength to said cogs, substantially as set forth.

Second, in wringing or other like machines having flanged or disked cog wheels upon each end of the roller shaft, making all said disks or flanges with

equal diameters, so that when the disks or flanges of the contiguous cog wheels are in contact they shall move with a rolling in contradistinction to a sliding friction, as and for the purposes set forth.

**72,408.**—ISAAC W. LAMB, Salem, Mich.—*Permutation Lock.*—December 17, 1867.—The permutation wheels are perforated by a circular series of holes traversed by a pin on a disk turned by the spindle, and having a limited longitudinal motion thereon. The disk is forced inward by a spiral spring. In unlocking the knob is drawn outward and each permutation wheel turned to the proper combination by rotation of the handle, the pins entering the wheels one at a time as the handle is turned to the proper position. When the wheels are adjusted to the proper combination the tooth of the dog lever drops into the notches and enables the retraction of the bolt by rotation of the knob. In locking the knob is turned around to the right until the bolt is thrown forward, and the rotation continued until the tooth is forced from the notches.

*Claim.*—First, the combination of the spindle D, the pin or pins e e, and key n', with the wheels C, when constructed and operated substantially upon the principle described.

Second, producing the various combinations by placing the wheels C in the lock in different order, substantially as specified.

Third, the combination of the spring F with the pin wheel E, as and for the purpose herein explained.

Fourth, splitting the screw g at g', for the purpose specified.

**72,409.**—J. M. MASON, New Albany, Ind., assignor to himself, OSCAR T. HIGGINS, CHARLES E. WILSON, and SAMUEL ADLAM, Jr.—*Coupling Shells to Rollers.*—December 17, 1867.—The outer periphery of the roller consists of a removable shell, connected as stated, to permit the renewal of the face when worn out.

*Claim.*—First, the shell B, coupled to the roller A by means of the dove-tailed tongue z fitting into the groove x, all being constructed substantially in the manner and used as and for the purposes set forth.

Second, utilizing the old roller by means of the shell, when connected together substantially as specified.

**72,410.**—LEWELLYN MASON, Rochester, N. Y.—*Instrument for Expanding Finger Rings.*—December 17, 1867.—The segmental expander has a frusto-conical mandrel, moved longitudinally by a screw and marked with a scale to indicate the expansion.

*Claim.*—First, the improved instrument for stretching finger rings, constructed, arranged, and operating substantially as herein set forth.

Second, the combination, with the expanding shaft B and the core C of the scale 1, 2, 3, &c., arranged substantially as described.

**72,411.**—ARTHUR A. MAXWELL, Pratt, Ohio.—*Grading and Ditching Machine.*—December 17, 1867.—The ground is raised by the two plows and inclined plane, and carried by the elevating apron to the conveying apron, by which it is discharged at some distance from the side of the ditch.

*Claim.*—The frames A E, plows B B, inclined plane C, belts D F, wheels R S, band T, and truck N, with crank shaft W, the whole arranged and combined with their respective devices for operating in the manner substantially as and for the purposes specified.

**72,412.**—DAVID McCAINE and WILLIAM McCAINE, Groton, Mass., assignors to themselves and DANIEL McCAINE, same place.—*Manufacture of Artificial Stone.*—December 17, 1867.—Composed of calcined magnesia, 1 part, and comminuted stone, 20 parts, with sufficient bittern water to form a stiff mortar. It may be molded and pressed or simply applied with a trowel.

*Claim.*—An artificial stone, made of materials and in the manner substantially as described.

**72,413.**—WILLIAM McCORMICK, Philadelphia, Pa.—*Boiler Feed Regulator.*—December 17, 1867.—The stem of the float has a steam-tight joint through the boiler head and has an index finger whose short



end is pivoted to a vertical rod connected to a valve in the supply pipe and to a steam alarm whistle.

*Claim.*—First, the combination of the rod H with the whistle K, supply-cock D, float G, and index F, substantially as described.

Second, the slot *e* of the rod H, in combination with the pin *f*, arm *d* of the whistle K, and arm G of the cock D, substantially as described.

**72,414.**—RUFUS S. MERRILL, Boston, Mass., assignor to himself and WILLIAM CARLETON, Charlestown, Mass.—*Burner for Hydrocarbon Fluids.*—December 17, 1867.—Explained by the claims and illustration.

*Claim.*—First, a burner for hydrocarbon fluids in which the base or lower portion, when provided with a cap which covers or encloses the apertures leading to the fluid reservoir, is combined with the deflector and chimney holder of the said burner mounted upon the wick tube, substantially in the manner herein set forth and for the purposes specified.

Second, the combination, with the wick tube and capped or covered base of the burner, of the chimney holder, deflector and sleeve, fitting upon said wick tube at a point above said covered base, under the arrangement herein shown and described.

Third, the combination, with the wick tube and the sleeve which carries the deflector and chimney holder, of the friction-spring, for holding said sleeve upon the tube, substantially as set forth.

**72,415.**—GEORGE MOONEY, Providence, R. I.—*Gas Burner.*—December 17, 1867.—A screw secured to the burner is passed through the small gas openings in the cup to keep them clear of impurities.

*Claim.*—The combination of screw C with the base or pillar of a common, argand, or other burner, with the cup E arranged with the opening D, for the purposes specified.

**72,416.**—NATHAN PARRISH, Kalamazoo, Mich.—*Fan Blower.*—December 17, 1867.—The case forms the sector of a cylinder. The fan is rectangular and oscillates in the case, being hung upon a rock shaft at the apex. The air is discharged into a lower case and issues therefrom through a side opening. It is designed to be operated by clock-work.

*Claim.*—First, the pendulum fan C, vibrating with the rock shaft B in close proximity with the stationary sides and bottom of the triangular case A, in combination with the inlet and outlet valves *e* and *d*, arranged and operating substantially as and for the purpose set forth.

Second, the triangular case A provided with the inlet and outlet valves *e* *c'* *d* *d'*, in combination with the vibrating fan C, rock shaft B and its operating levers, and the air box or receiver D, the whole constructed and arranged in the manner and for the purpose set forth.

**72,417.**—ELIZUR POND, New Haven, Conn.—*Stirrup.*—December 17, 1867.—The metallic shell is lined with rubber.

*Claim.*—A stirrup consisting of the metal shell *a*, provided with an eye A and the lining *b*, the whole constructed substantially as herein set forth.

**72,418.**—SAMUEL W. POWELL, Brookville, Md.—*Bone and Plaster Mill.*—December 17, 1867.—The hammers are on arms projecting radially from a vertical shaft rotating at considerable velocity and contained in a cylindrical case with holes in its periphery for escape of the comminuted matter. The powdered matter enters an outer annular case from which it is discharged by a series of revolving clearers. The inner cylindrical case is invertible to bring a new surface in proximity to the hammers. The crushing hammers are removable. The main shaft has a tapering upper journal with a vertically adjustable bushing. The step-block is horizontally adjustable, and it and the shaft have removable, hardened steel pieces to receive the friction.

*Claim.*—First, the clearers or discharging devices *f*, applied within a space S enclosed by the shells C B of a crushing machine, substantially as and for the purpose described.

Second, applying the clearers *f'* to a toothed ring C' which is supported within the annular space S, and driven by means substantially as described.

Third, the reversible perforated ease or division C, applied to a machine operating substantially as described.

Fourth, the construction of the cover A, with a central, elevated, hollow enlargement A<sup>1</sup> forming a chair for receiving a vertically-adjustable journal box which supports the upper end of the spindle D, substantially as described.

Fifth, the arrangement within a perforated ease C of one or more revolving arms carrying removable and reversible square-faced hammers *d*, substantially as described and for the purpose set forth.

Sixth, the vertically-adjustable journal box *b*<sup>1</sup> supported upon a chair formed on cover A<sup>1</sup>, and adapted for receiving the tapering end C' of the spindle D, substantially in the manner and for the purpose described.

Seventh, the step *h*, constructed with perforations in it, substantially as described.

Eighth, the construction of the oil cup L for receiving the step *h*, and with a journal box L' for receiving the foot-piece *g*, substantially as described.

**72,419.**—C. C. PRESTON, Bayland, Texas.—*Apparatus for Fumigating Plants.*—December 17, 1867.—The fumigating material is placed in the cylinder and being ignited the fumes are ejected and air supplied by a bellows beneath the cylinder. The fumes are distributed through the flexible pipe.

*Claim.*—First, a combination of the retort A with the flexible tube F, substantially as described.

Second, the combination of the retort A, tube F and bellows C, substantially as and for the purpose described.

Third, the combination of the retort A, tube F, bellows C and carriage, substantially as described.

**72,420.**—A. Q. ROSS, Cleves, Ohio.—*Device for Ejecting Hot Water on War Vessels.*—December 17, 1867.—The vessel has hose connected to a boiler to eject water upon the enemy or extinguish fires. One of the nozzles issues from a rotatable turret, and has a deflecting plate which may be applied to the nozzle to turn the current downward and spread the same around the turret.

*Claim.*—First, the combination of the boiler A, condensing pipe *b'*, and the flexible hose pipes *c* and *c'* connected therewith, arranged in a war vessel, substantially as and for the purpose described.

Second, in combination with the boiler A and the pipe *b'* the revolving pipe *d*, with nozzle capable of being elevated and depressed by the means and for the purpose substantially as described.

Third, in combination with the boilers and revolving pipe, as described, the revolving turret, substantially as and for the purpose set forth.

Fourth, in combination with the revolving swivel-jointed pipe *d* the spreader *s*, with lever *l* for operating the same, substantially as and for the purpose set forth.

**72,421.**—WILLIAM SANGSTER, Joliet, Ill., assignor to himself, JAMES FLOYD, MICHAEL KERO, WILLIAM P. DELLMANN, JOHN SMITH, and GEORGE STOFFLER.—*Brick Machine.*—December 17, 1867.—The mold frame is reciprocated transversely and has recesses to receive the molds. The recesses have hinged bottoms to allow the easy removal of the molds. These bottoms are supported by rollers when beneath the openings in the pug mill.

*Claim.*—A brick machine, consisting of the case A, having shaft B, arms *a*, and slotted bottom D, arranged with the slotted plates E, with their rollers H for the vertical adjustment of the mold frame F, provided with its knives I I, all constructed and operating as and for the purposes set forth.

**72,422.**—GEORGE S. SAXTON, St. Louis, Mo.—*Manufacture of Corrugated Bells.*—December 17, 1867.—The sides of the bell are corrugated. The bell may be made of sheet metal.

*Claim.*—The bell A, when it is formed in corrugations, substantially in the manner and for the purpose set forth.

**72,423.**—AUGUST SCHRICK and HENRY HILDENBRAND, St. Louis, Mo., assignors to themselves, F. C. KRAYEY, and C. R. SCHRICK, same place.—*Machine for Filling Horse Collars.*—December 17, 1867.—



Improvement on their patent November 13, 1866. The fore end of the straight, unfilled collar is held by tongs to a support, which is secured to a sliding bed. The rear end of the collar is held by grippers. The straw is taken from the lower end of a hopper by a serrate-ended reciprocating bar and deposited in the collar. The collar bed retreats backward as the collar is stuffed by pressure of the feeder. The backward movement of the bed is regulated by set screws in the frame by which the friction between the frame and bed is regulated. The straw is forwarded in the hopper by oscillating claws and radial pins on a rotating shaft.

*Claim.*—First, the scraper or scrapers  $f f^1$  and their combination with the rock shaft  $f^4$ , substantially as and for the purposes set forth.

Second, the combination of the rotating shaft H and its prongs  $h$  with the rock shaft I and its prongs  $i$ , substantially as set forth.

Third, the eccentric bar G, the shaft  $f^4$ , and the shaft H, when combined and acting substantially as and for the purposes set forth.

Fourth, the combination of the eccentric bar G with the shaft, substantially as and for the purposes set forth.

Fifth, the arrangement of the partition piece K in the hopper F, substantially as and for the purposes set forth.

**72,424.**—JACOB SEBASTIAN, New York, N. Y.—*Wagon Seat.*—December 17, 1867.—The seat is attached to horizontal springs, which are pivoted to the uprights and to another spring whose lower end is secured to the upright.

*Claim.*—The spring arms B, links  $a$ , and spring slides D, in combination with the seat A and uprights C, substantially as and for the purpose described.

Also, the loops  $b$  and screws  $c$ , in combination with the uprights C, spring slides D, arms B, and seat A, constructed and operating substantially as and for the purpose set forth.

**72,425.**—JACOB SEBASTIAN, New York, N. Y., assignor to himself and LEWIS SAAL, same place.—*Wagon Spring.*—December 17, 1867.—The clamp has a top and bottom cross-bar and two lateral keys. The keys are placed edgewise toward the leaves of the spring and catch in grooves in the edges to prevent the leaves turning. One cross-bar is fitted between the cross-plates of the clips and the other is let into the spring block. The half spring has one or two elongated eyes to allow of extension on a fixed bar.

*Claim.*—First, a clamp A, composed of cross-bars  $a b$ , keys  $c$ , and wedges  $d$ , to act in combination with the clips D, substantially as and for the purpose described.

Second, providing the edges of the leaves of the spring with grooves or notches to admit the edges of the keys  $c$ , substantially as and for the purpose described.

Third, providing the spring at one or both ends with an oblong eye, substantially as and for the purpose described.

**72,426.**—L. F. SMITH, Philadelphia, Pa.—*Steam Blower.*—December 17, 1867.—The air is actuated by jets of steam.

*Claim.*—First, the spreader E, as constructed and arranged within the pipe A, with its partitions B B, in the manner and for the purposes set forth.

Second, in combination with the spreader E in the pipe A, with its partitions, the solid pipe or casting D, having orifices  $e e'$  and screw thread, all constructed and operating as specified.

**72,427.**—DAVID F. STRATTON, Christianburg, Ohio.—*Gauge for Setting Wagon Axles.*—December 17, 1867.—The swing is adjusted to give the downward inclination, and the axle is bent to conform to this guide. The "gather" is given by the adjustable standard.

*Claim.*—A reversible gauge, for the purpose set forth, having on one side the adjustable standard B, fixed standard C, and adjustable swing D, and on the other the longitudinally-adjustable standard B', fixed standard G, and vertically-adjustable standard H,

when constructed to operate substantially as described.

**72,428.**—L. R. STREETER, Chelsea, assignor to ALFRED B. ELY, Newton, Mass., trustee.—*Artificial Plate for Teeth.*—December 17, 1867.—The fiber is ground and intimately mixed with the resinous substance, in proportion of about one of the former to two of the latter. The intaglio die is coated with gum arabic and a little glycerine, and heated to 200° Fah. The compound, which is in form of sheets, is placed within the die. The cameo die is similarly coated and heated to 220° Fah., and after forcing it into place the flask is heated to 247° Fah. The compound is withdrawn and cooled gradually before finishing.

*Claim.*—First, the use of hard resins or resinous bodies, mixed with fibrous or textile materials, and shaped by means of heat and pressure, substantially as described.

Second, the use of thin plates of metal, horn, shell, gutta-percha, wood, or other such suitable material, capable of being pressed into shape, between or in combination with layers of the resinous and fibrous compound, as and for the purposes substantially as described.

Third, as a base for artificial teeth or gums, the use of fiber or fibrous material, saturated or mixed with lac, or other suitable substance, which, when heated and pressed, will assume the proper shape, and possess or acquire the proper hardness and elasticity, substantially as described.

**72,429.**—J. WARREN THYNG, Salem, Mass.—*Coffee Maker.*—December 17, 1867.—The water is poured into the funnel pipe, and descends through the perforated distributing plate upon the coffee in the strainer. The ascending vapor is condensed on the lower plate of the annular cold water chamber which surrounds the funnel pipe.

*Claim.*—The conical distributing chamber  $f$ , arranged under the condenser, substantially as and for the purpose herein specified.

Also, the inverted perforated cone  $i$ , in the bottom of the receptacle B, in combination with the distributing chamber  $f$ , substantially as and for the purpose specified.

Also, the extended flange  $m$ , on the receptacle, for the purpose specified.

Also, the combination of the condenser A, constructed substantially as described, with the receptacle B, constructed substantially as set forth.

**72,430.**—JOHN M. TIERNAN, Pittsburg, Pa.—*Tongue Support for Railroad Street Car.*—December 17, 1867.—The rear end of the detachable tongue has runners for support while moving along the ground.

*Claim.*—The mode of supporting the tongues of street cars and other vehicles or machines while the same are being moved from place to place, or changed from one end of a car to the other, by the use of a curved or bent metallic bar or rod, attached to or swung under the tongue, together with the mode of operating the said bar by a lever fastened thereto acting against a bolt fixed to the tongue over the said bar, as the same is hereinabove described.

**72,431.**—P. H. VANDER WEYDE, Philadelphia, Pa.—*Manufacture of Liquid for Making Ice, and for other Purposes.*—December 17, 1867.—Explained by the claims.

*Claim.*—First, the manufacture of hydride of propyle, or chimogene, from the so-called non-condensable gases escaping from any petroleum still, by condensing them in a coil exposed to a freezing mixture, or by submitting them to a powerful pressure of a pump, or by both.

Second, the boiling of crude or refined petroleum at the common temperature by the suction of a vacuum, agitating it, and condensing the vapors produced by cold or pressure, or by both, thus producing a highly volatile liquid, boiling at about 30° Fah., and corresponding with hydride of ethyle.

Third, the application of these liquefied gases, or of gasoline, or any other very volatile product of petroleum, to the making of ice and of cooling in general.

Fourth, the temporary preservation of dead bodies by the perfectly dry cold produced by placing in the coffin one or more long, narrow cylinders filled with



the above described liquefied hydrocarbon gases, or with liquefied sulphurous acid, carbonic acid, or nitrous oxide, or their equivalents, from which cylinders the gas is slowly escaping, regulated by a stop-cock, and thus maintaining any desired low temperature, the escaping gas at the same time serving as a preservative and disinfectant.

Fifth, the use of the above described or other products of petroleum, or the use of crude petroleum, when escaping, either by their own pressure, or projected as a spray, by the atomizing action of a blast of air, oxygen, or nitrous oxide, for an illuminating and heating agent, either under a steam boiler using petroleum, in combination with a blast of air or steam, or both, as above described, or for a lime light or blow pipe, requiring only two very small vessels, each containing one of the liquefied gases—petroleum gas and nitrons oxide gas—as substitutes for the non-condensable hydrogen and oxygen.

**72,432.**—THEODORE VANDOREN, Sr., Washington, D. C.—*Taking the Form and Measure of Gentlemen to Cut Coats and Vests.*—December 17, 1867.—One of a series of jackets is placed upon the person, and the seams drawn to fit and secured by pins. The cloth is then cut out by patterns agreeing with that jacket.

*Claim.*—The use of series of jackets with the seams thereof formed as herein described, in combination with the patterns, to correspond with said jackets, when said jackets and patterns are used together in the manner described, as a system for cutting gentlemen's coats and vests, herein fully set forth.

**72,433.**—O. E. WEATHERHEAD, Winchendon, Mass.—*Dividers.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The device for holding a pencil point or pen upon the dividers, consisting of the elbow C, piece E, with groove c, and clamp F, with set screw b, arranged and combined substantially as described.

**72,434.**—D. B. WESSON, Springfield, Mass., assignor to the WESSON FIRE-ARM COMPANY.—*Breech-loading Fire-arm.*—December 17, 1867.—The extractor ejects the cartridge shells from both barrels when the breech is raised for charging. A lever pivoted to the stock is also pivoted to a lag upon a block sliding in the same guide groove as the extractor. This block has two catches, which engage the forward end of the extractor, and drive it backward by the action of the lever upon the sliding block when the breech is raised. When the shells are ejected, a further elevation of the breech trips the catches, and the extractor is drawn back by a spiral spring.

*Claim.*—The slide D, pushing bar or bars m, and studs b', arranged in relation with each other and with the extractor C and pivoted bar E, substantially as and for the purpose specified.

**72,435.**—H. F. WHEELER, Boston, Mass.—*Pen Holder.*—December 17, 1867.—The two pens are combined in one holder for use of different colored inks.

*Claim.*—A pen holder, having sockets for two pens, substantially as described.

**72,436.**—ALBERT WIPPO, Chicago, Ill.—*Boring Tool.*—December 17, 1867.—The tool has an auger to bore the socket and a cutter to form the shoulder.

*Claim.*—The above described tool for shaping the ends of the legs of furniture, constructed to operate substantially in the manner and for the purpose set forth.

**72,437.**—G. B. WISEMAN, Sycamore, Ill.—*Stove-pipe Damper.*—December 17, 1867.—The damper rod passes through rectangular slots in the pipe and has rectangular portions which may be brought into the slots to prevent its turning.

*Claim.*—A damper B, provided with a sliding rod which has a cylindrical and two or more rectangular portions, constricted substantially as and operating in the manner set forth.

**72,438.**—WILLIAM S. WORLEY, Tuscola, Ill.—*Land Roller.*—December 17, 1867.—Explained by the claim and illustration.

*Claim.*—The rollers B B', provided with the bands C C C and shovels b b, when arranged upon the

frame A, in the manner and operating substantially as and for the purposes herein specified.

**72,439.**—ERNESTO ABBIATI, New York, N. Y., assignor to himself and JOHN N. LONGHI, same place.—*Track Cleaner.*—December 24, 1867.—The wings are moved out as they approach the front and serve to throw snow or other matter from the track.

*Claim.*—First, the application to a track and street cleaner of oscillating wings H H, operated by means of crank shafts E E, to which planetary motion is imparted, substantially as herein shown and described and for the purpose specified.

Second, the oscillating wings H, when arranged upon and operating in combination with a revolving disk D, all made and operating substantially as herein shown and described.

Third, the track cleaner, when consisting of the revolving disk D carrying the oscillating wings H, in combination with the brushes I I, all made and operating substantially as and for the purpose specified.

**72,440.**—ALFRED A. ANDERSON, Galesburg, Ill.—*Mortar Mill.*—December 24, 1867.—The larger end of the truncate-conical case is removable to allow the extraction of the mixer. The material is fed into the hopper and carried by rotation of the mixer to the discharge opening at the smaller end.

*Claim.*—A mortar-mixing machine, consisting of the case A provided with a hopper B, detachable end piece A', and the gear wheels b c, arranged to operate a grinding or mixing cylinder placed within the hopper, the whole constructed and mounted on a carriage, substantially as described.

**72,441.**—CYRUS P. BACHELDER, Franklin, N. H., assignor to himself, DANIEL BARNARD, and STEPHEN KENRICK.—*Car Coupling.*—December 24, 1867.—The cross-piece on which the link rests is connected to the ends of sliding pins, which are surrounded by spiral springs tending to extend the piece beneath the outer end of the link, but giving way before the approaching draw-head. The sliding rods are supported by brackets upon a rock bar turned by rectangular-extending handles.

*Claim.*—The apparatus for raising links, consisting of the cross-bar a with its handles a' and brackets b, in combination with the rods d, spiral springs h, and cross-piece e, all operating substantially as and for the purpose described.

**72,442.**—CHARLES H. BACON, Springfield, Ohio.—*Device for Attaching Postage and Revenue Stamps.*—December 24, 1867; antedated December 11, 1867.—The case is filled with stamps after removing the top. The knives offer sufficient resistance to prevent any but the outside stamp from leaving the case. The stamps are crowded down by the spring plunger.

*Claim.*—The case A, having knives G with inclined edges projecting from its interior faces, in combination with the follower B, substantially as and for the purpose set forth.

**72,443.**—LEONARD BAILEY, Boston, Mass.—*Carpenters' Plane.*—December 24, 1867.—The cap iron has an additional bearing near its edge, and the edge of the clamping plate rests between the two bearings.

*Claim.*—The auxiliary point of impact between the cap and the thin plane-iron, at the point or portion thereof where the thin steel tends to buckle under the pressure of the cap upon the projecting edge of the plane-iron, substantially in the manner described.

**72,444.**—HOSEA BARNS, Somers, Wis.—*Extension Ladder.*—December 24, 1867.—The sections are arranged to be folded together or extended in one line.

*Claim.*—The hooks D, attached to the side pieces a of the sections or lengths B C, when the latter are connected together by the rounds e passing through oblong slots d in the side pieces a, and the lower ends of the latter are provided with notches b to fit over rounds e, all arranged in the manner substantially as shown and described.

**72,445.**—JOHN RANDOLPH BLAKE and JOHN LEWIS JARRELL, Dyer's Station, Tenn.—*Truss.*—December 24, 1867.—The pads are adjustably tied to



the under strap, which has side straps connecting it to the belt to secure lateral adjustment.

*Claim.*—First, the pads, when applied to the under straps of a body belt, substantially as and for the purpose described.

Second, the side straps H, in combination with the above, substantially as described, for the purpose specified.

**72,446.**—ALMERON BRISTOL, Constantine, Mich.—*Fly Trap.*—December 24, 1867.—The bell glass is adjustable on its base and has an annular trough inside to contain soapsuds.

*Claim.*—First, a bell glass or erect glass cylinder, closed at the top and having the lower edge turned up inside to form a trough, as described and for the purpose specified.

Second, in combination with the bell glass or cylinder described, the standard, provided with a screw and nuts to adjust the height of the glass.

**72,447.**—ISRAEL F. BROWN, New London, Conn.—*Tool Holder for Slide Rest.*—December 24, 1867.—The tool has notches in one corner, one of which is engaged by a projection in the angular recess of the gib. The whole is secured by a key.

*Claim.*—The notches *d*\* in the tool, in connection with the wire *e*, or its equivalent, in the V-groove in the gib or key, substantially as and for the purpose set forth.

**72,448.**—GEORGE BROWNLEE, Princeton, Ind.—*Skate.*—December 24, 1867.—The foot-rest is hinged at the ball, and the runner is divided concentrically with the axis of the hinge, so that the toe of the skate can be bent upward and the runner present an unbroken surface. The flexion of the skate brings the propelling bars in contact with the ice. The strip applied to the runner is to assist in turning when the weight is brought upon it.

*Claim.*—First, the foot-rest or support, and runner or blade, of a skate, when transversely divided, substantially as and for the purpose described.

Second, a foot-rest or support to the skate, when provided with a driving-jaw or jaws, substantially as described for the purpose specified.

Third, the edge or strip applied to the runner or blade of a skate, substantially as and for the purpose described.

**72,449.**—CHARLES BURNHAM, Philadelphia, Pa.—*Door Spring.*—December 24, 1867.—The notched disk at the end of the spring is engaged by the worm to adjust the tension.

*Claim.*—First, in combination with a rod or torsion door spring, the screw-threaded cam or worm G, or an equivalent thereof, as described, engaging with the notched burr or wheel D on the end of the said torsion rod, for the purpose of graduating the tension thereof, substantially as described.

Second, in combination with the above, the double socket or receiver E, for supporting the notched wheel D, substantially as described.

**72,450.**—NATHAN F. BURNHAM, York, Pa.—*Guide for Water Wheels.*—December 24, 1867.—The outer ends of the guides are turned outward, and with the outer beveled surfaces at the inner ends of the adjoining guides form outwardly flaring openings through which the water passes toward the buckets.

*Claim.*—The guide constructed with a beveled surface, as at *y*, such beveled surface forming one side of the entire throat, formed by the respective pairs of guides, substantially in the manner and for the purpose described.

**72,451.**—JACOB B. BYERS, Geneseo, Ill.—*Washing Machine.*—December 24, 1867.—The beaters are connected by pitmans to a compound crank and are operated thereby.

*Claim.*—A washing machine, having the stationary inclined corrugated board C and the swinging beaters D suspended and pivoted within the box A, with the inclined bottom B, all arranged as shown and described.

**72,452.**—E. O. CARRINGTON, Philadelphia, Pa.—*Mosquito and Fly Net.*—December 24, 1867.—The upper and lower bar have each a fixed pin at one end

and a spring pin at the other, for attachment to the window frame. The edges of the net are sewed to strips of muslin. The folds in the netting are to allow its contraction by moisture or its bagging by the wind without drawing the sides from the frame.

*Claim.*—The polygonal bars *c*, with end spring sections, in combination with the tapes or strips *e* and fold *f*, as and for the purposes specified.

**72,453.**—JAMES CHAMBERS, Boston, Mass.—*Basin Faucet.*—December 24, 1867; antedated December 7, 1867.—The valve stem has two cup valves, either one of which may be brought in contact with the elastic valve seat by a right or left sweep of the nozzle, respectively, one being beneath and the other above the valve seat.

*Claim.*—The combination as well as the arrangement of the two valves F G, their seats *h i*, the passage *k*, the valve chambers *b c*, the standard A, and the stem E, provided with operative screws *o*, as specified.

Also, the combination as well as the arrangement of the nozzle B, the standard A, the stem E, its operative screws *o*, the valves F G, their seats *h i* and chambers *b c*, and the passage *k*.

Also, the combination of the tube *e*, the flange *f*, and the two elastic annuli *h i*; also, their arrangement with respect to the screw joint *a* of the parts A C, as described.

Also, the combination of one of the valves F G with its stem, by means whereby one may be adjusted thereon, with reference to the other, for the purpose of terminating the movement of the nozzle, as described.

**72,454.**—ROCKWELL CHAPMAN, Buchanan, Mich.—*Water Wheel.*—December 24, 1867.—Explained by the claim and illustration.

*Claim.*—A water wheel consisting of the radially-projecting hub B, having the buckets *a* formed therein alternately on opposite sides, each bucket extending half way across the face of B, as shown in Fig. 2, and having the discharge passages formed on the sides by the overlapping plates *l*, applied as described.

**72,455.**—B. E. CHOLLAR, Leavenworth, Kansas.—*Tray for Gas Purifiers.*—December 24, 1867.—The ends of the tray are formed of pectinated bars. In the spaces between the teeth in said bars grate bars are placed, and the same are held in position by the clamps which are bolted down upon the grate bars.

*Claim.*—First, a purifying tray, substantially as shown and described and for the purpose set forth.

Second, the grate bars *a*, in combination with the pectinated bars A and the binders or clamps B, substantially as shown and described and for the purpose set forth.

**72,456.**—PHILIP COONROD, Keithsburg, Ill.—*Double Cultivator Plow.*—December 24, 1867.—The axletree is curved up at the midlength for attachment of the tongue. Extending from each side of the curve are sleeves having a series of upward and downward pins, which act as clevis pins to the draw bars of the plows, and admit of lateral adjustment in the latter. Each pair of plows has a handle. The tongue has a hooked cross-bar at the rear end of which the beams may be supported in moving from place to place.

*Claim.*—The cultivator, consisting of two separate gangs of plows G G, each gang constructed of curved iron bars *g g*, as described, and adjusted by means of clevis H and box C, both constructed and operating substantially as herein set forth, in combination with axletree A, constructed as described, boxes D D, and draught-rod E, substantially as set forth.

**72,457.**—GEORGE CROMPTON, Worcester, Mass.—*Shuttle.*—December 24, 1867.—The bobbin-spindle is hinged in the shuttle and is kept in its elevated and charging, or depressed and working positions, by the spring strut, and locked in the latter position by the spring catch.

*Claim.*—In combination with the bobbin-spindle, the spring *f* and strut *k*, arranged to operate substantially as set forth.

Also, the hinge-latch plate *l*, the spring *s*, and the stop-pin *t*, when combined and arranged together



and relatively to the bobbin-spindle, substantially as set forth.

**72,458.**—ALFRED CROSSLEY, Brooklyn, N. Y.—*Steam Engine Globe Valve*.—December 24, 1867.—The packing is in a cylindrical recess in the lower part of the bonnet.

*Claim.*—First, the chamber *c*, in the upper part of the bonnet *E*, above the screw-thread, by which the valve-stem is raised and lowered, so that the smooth upper part of the valve-stem will not come in contact with the screw-thread in the bonnet, substantially as herein described.

Second, the arrangement of the packing *F*, bonnet *E*, and its recess *c*, whereby to exclude water or steam from the screw-thread in the interior of the bonnet, substantially as herein shown and described.

**72,459.**—BENJAMIN F. CUNNINGHAM and JEFFERSON F. CUNNINGHAM, Flora, Ill.—*Burglar Alarm*.—December 24, 1867.—The usual clock alarm in a suitable case is suspended on the door knob. The spring detent-wire is connected to another wire whose end rests against the knob, so that by turning the latter the alarm is released.

*Claim.*—The arrangement of lever-wire *D*, in combination with wire *E*, for the purpose herein specified.

**72,460.**—AARON M. DANIELS, Hartford, Conn., assignor to himself and BENJAMIN BENNETT.—*Artificial Fuel*.—December 24, 1867.—Composed of coal dust, 140 pounds; coal tar, 1 gallon; benzine, 1 quart; rosin, 2 pounds; and sulphur, 1 ounce.

*Claim.*—A compound for artificial fuel, substantially as described.

**72,461.**—W. H. DAVIS, Lexington, Indiana, assignor to JOSEPH HARLAN, same place.—*Animal Trap*.—December 24, 1867.—The trap door is connected to a crank, operated on by a spring, and detained by a catch, which is tripped by the drawing forward of the bait. When the crank is tripped, it takes one revolution, throwing down the trap door and raising it again. The trap door has bars projecting upward, between which the rat reaches the bait, and which serve to force the rat into the receptacle beneath.

*Claim.*—First, the crank shaft *C* operated by the spring *d* or its equivalent, in combination with the trap door *B*, substantially as above set forth and described.

Second, the bars *G* in combination with the trap door *B*, substantially as specified.

Third, the trigger *F*, substantially as described, in combination with crank shaft *C* and trap door *B*, substantially as above set forth and described.

**72,462.**—WILLIAM F. DAVISON, OLIVER A. BATES, SAMUEL M. WILSON, and ALVA P. RUSSELL, Janesville, Wis.—*Harness Snap*.—December 24, 1867.—The drop link in the end of the hook has a flattened portion, giving bearing to a spring which keeps the link in contact with the shank.

*Claim.*—First, ring *b*, when constructed with a gain or flattened portion to receive and to be operated by spring *c*, substantially as and for the purposes described.

Second, hook *a*, ring *b*, and spring *c*, when all are constructed, connected together, and used substantially as and for the purposes described.

**72,463.**—OTIS DEAN, Richmond, Va., assignor to R. W. YOUNG, same place.—*Screwdriver*.—December 24, 1867.—The handle has a tubular extension in which the blade slides. The blade has side notches, which are engaged by a spring dog.

*Claim.*—First, a screwdriver, capable of being varied in length, substantially in the manner set forth.

Second, the combination of the notched blade *B* and locking spring *C*, constructed and arranged to operate as and for the purpose specified.

**72,464.**—GEORGE A. DICKSON, Woodcock township, Pa.—*Tool for Opening Cases*.—December 24, 1867.—The spirally edged, segmental knives are inclosed within a cylindrical cap, which is placed on the can top; the depression of the cutter makes a cir-

cular opening. The packing prevents escape of juice.

*Claim.*—The cutting tool, constructed as shown at Fig. 3, when the same is in combination with the cylinder *D* and the india-rubber packing *B C C*, and the collar *E E*, constructed as described for the purposes set forth.

**72,465.**—F. B. DÆRING, London, England.—*Machine for Boring Rocks*.—December 24, 1867; antedated September 4, 1867.—The main cylinder, in addition to its ordinary ports, has two ports communicating respectively with the back of the valve of the cylinder, and with the back of the advance cylinder. The main cylinder has also a central supply port in constant communication with the fluid supply. The piston rod carries three pistons forming two chambers. The forward chamber communicates with the outer air. The hinder chamber contains compressed air. The valve rod carries four pistons; the two outer forming its operating pistons, and the inner ones the cylinder valves.

*Claim.*—First, constructing engines or machinery for boring or working in rock or other mineral in which the pistons of the small cylinders are operated by motive fluid, distributed by the main cylinder, without having been previously utilized in the main cylinder, as herein described.

Second, constructing engines or machinery for boring or working in rocks or other mineral, in which the main cylinder itself distributes the motive fluid at distinct portions of the stroke to other cylinders, as in the arrangements herein described.

Third, constructing engines or machinery for boring or working in rock or other mineral in which the piston of the main cylinder, with the tool, has the required rotary motion imparted to it by a twisted bar, or equivalent, in combination with other parts, as herein described.

**72,466.**—F. B. DÆRING, London, England.—*Stand for Rock Drilling Engine*.—December 24, 1867; antedated November 9, 1867.—The engine is supported on a horizontal arm, which is extensible within its supporting collar, and this collar is attached to another upon the vertical column; the latter collar has vertical or horizontal adjustment in the column. The top of the column has a transverse plate, which is connected to the angle iron frame, and with it furnishes bearing for the wedges inserted between the frame and the adit top.

*Claim.*—First, the combination of parts, substantially as herein described and shown, in such manner that the bearing pieces for wedges or other fixing arrangements may have more than one point of support, and the carriage be therefore prevented turning round the carrying column, as shown in the drawings annexed.

Second, the combination of parts, in frames or stands, for boring or cutting engines, of a pivoted saddle or bow, with collars, columns, and arms, with their clamping arrangements and moving gear for allowing the engine to be moved into any required position, substantially as and for the purpose herein described and shown in the figures.

Third, the combination, with frames or stands for boring engines, of reservoirs, and a tank for water, having the necessary inlets and outlets, substantially as and for the purpose herein described and shown in Figs 1 and 8.

Fourth, the combination of parts of frames or stands, to be employed in sinking vertical shafts, substantially as herein described with reference to Figs. 6 and 7.

**72,467.**—A. DUNLAP, Clyde, Ohio.—*Head Rest*.—December 24, 1867.—Intended for use in railroad cars. It has pads resting against the head, shoulders, and back of the arms.

*Claim.*—The section *A* consisting of the wire frame *C* and cushion *D*, as arranged in combination with sections *B B'*, when constructed with sleeves or sockets *F* and cushions *E* and *H*, in the manner and for the purpose substantially as set forth.

**72,468.**—JACOB EDSON, Boston, Mass.—*Lathe Tool Holder*.—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—The arrangement of the clamp-holding



projection *a* and the clamp B with the shank A and one or two cutters C C' applied thereto, as specified.

Also, the holder shank A as made with the auxiliary projection *d* arranged with it and its clamp projection, as specified.

Also, the holder, as made with one or more notched or toothed grooves constructed in its head or front end to receive one or more tools or cutters held against such notches, as explained.

Also, the arrangement and combination of the two separate cutters or tools with the single holder and its clamp, as specified.

Also, the holder, as made with each of its grooves curved longitudinally, as and for the purpose above specified.

Also, the yoke of the clamp, as formed with the cap or cover, to extend over the projection *a*, and that part of the screw of such clamp which extends within the projection-receiving recess of the clamp.

**72,469.**—AUGUSTIN ELLIS and OLIVER ALBERTSON, Salem, Ind.—*Fence*.—December 24, 1867.—The battens are attached to both sides of the boards at midlength and one end; overlapping the latter so as to receive the ends of the boards of the next panel, which are engaged in the recess by pins. The lower boards have blocks, giving attachment to inclined horizontal pieces which give side support.

*Claim.*—The obliquely projecting bars or bases D attached to the panels A A, substantially in the manner as and for the purpose set forth.

**72,470.**—AUGUSTIN ELLIS and OLIVER ALBERTSON, Salem, Ind.—*Animal Trap*.—December 24, 1867.—The front and top of the bait chamber are hinged, and are open when the trap is set. They are connected by pitmans to arms on a shaft turned by a spiral spring. The bait is fixed over a treadle, whose depression trips the spring shaft, which makes a half rotation and closes the doors. The shaft is then arrested and the doors remain closed until the rat in passing beneath the raising gates into the light chamber again trips the shaft and opens the trap.

*Claim.*—First, the combination of the lids D E to the bait box A, tilting platform L, wicket door M, between said bait box and the chamber B, lever stop N, bar P, lever S, rod T, crank arms I, crank shaft H, spring J, and bait hook and frame U V, substantially as described for the purpose specified.

Second, the wicket door or doors to the communicating passage C, provided with a flange piece or strip, or its equivalent, substantially as described for the purpose specified.

**72,471.**—MARCUS W. FLORER, Bracken county, Ky.—*Fruit Drier*.—December 24, 1867.—The fruit is placed in an upper chamber in communication with the outer air, and having beneath it a steam chamber.

*Claim.*—The box or chest C, fruit holder B, and pipe E, when used in connection with the ordinary farmer's or cooking kettle for generating steam, substantially as and for the purpose described.

**72,472.**—JOSEPH K. FRANTZ, Goodville, Pa.—*Seed Planter*.—December 24, 1867.—The seed mechanism is actuated by a crown gear on the axle, but may be disconnected by a hand lever. The brush for removing the surplus seed from the seed cavity is adjustable by a thumb screw. The plow beams are connected to adjustable levers.

*Claim.*—First, the plow blades B<sup>2</sup> and covering shares F<sup>2</sup>, adjusted by means of the thumb screws D<sup>2</sup> in the beams E<sup>2</sup> and uprights C<sup>2</sup>, secured to the carrying beams Z, and by the lever I<sup>2</sup> attached to the cross-rod H<sup>2</sup> at the rear of the machine, as herein described, for the purpose specified.

Second, the brush U in the hopper L, adjusted by means of the thumb screw W and guide posts V, as herein described, for the purpose specified.

Third, the hand lever Y and lever I<sup>2</sup>, in combination with the shaft F, for throwing the pinion E in and out of gear with the crown wheel D, as herein described, for the purpose specified.

**72,473.**—AMBROSE FRAYER, Ripley, Ohio.—*Rail Fence*.—December 24, 1867.—The posts are supported on cross sills, which also give support to the feet of the braces, which are attached to the ends of the

yoke traversed by the posts, and supporting one or more lines of rails.

*Claim.*—The herein-described fence, when constructed and arranged in the manner substantially as described, consisting of the side braces F, so arranged that the yoke E embraces their upper ends, thereby holding them securely in connection with the posts C, at the same time binding said posts together, whereby the rails are supported and kept in position between said post and upon the sills B.

**72,474.**—WILLISTON K. FULLER, Modena, Ill.—*Ventilating Millstones*.—December 24, 1867.—Flaring-mouthed pipes revolve with the millstone and gather air, which is discharged by pipes descending into its eye.

*Claim.*—The millstone G, provided with the scroll wing A and tube B, so arranged that the tube will pass down the eye of the stone a certain portion of its length, and through the corner at an angle, so as to open on the face of the stone a short distance from the eye, constructed and operating substantially as herein indicated.

**72,475.**—J. C. GASTON, Cincinnati, Ohio.—*Churn*.—December 24, 1867.—The lid has perforations for passage of air, and the cream is prevented from splashing out by plates beneath them.

*Claim.*—The construction and arrangement of two perforated dasher heads, secured one above the other to the dasher handle, and having an equal number of perforations, and so placed that the perforations in one head shall be opposite the solid part of the other, substantially as and for the purpose described.

Also, in combination with the above, providing the cover with the air tube *e*, with a semi-cylindrical-shaped cap *e*, as and for the purpose set forth.

**72,476.**—JACOB GETTEMY, Donegal, Pa.—*Tire Bending and Shrinking Machine*.—December 24, 1867.—The journal blocks of the end rollers slide in inclined guides, being actuated by links connecting them to crank pins on the central ratchet wheel, which is turned by a lever. An index finger on the shaft of this wheel indicates the diameter of the tire which is being passed through the machine.

*Claim.*—First, the device for operating the rollers E E, so that they may be moved in the desired direction, said device consisting of the crank shaft C, in combination with the connecting rods *e e*, sliding frames D D, and grooves or guides *f* in frame A, all made and operating substantially as herein shown and described.

Second, the device set forth in the foregoing claim, in combination with the indicator *i* on shaft C, the same being made as set forth.

Third, the indicating device *i*, in combination with the roller B, arranged as set forth.

Fourth, the roller B, when corrugated as set forth, in combination with the rollers E E, the latter travelling on inclined planes, substantially as and for the purpose herein shown and described.

**72,477.**—ROBERT GIDLEY, Lagrange, N. Y.—*Gate*.—December 24, 1867.—The bars and pickets are pivoted together, and the bars to the rear upright, which is extended upward, and at its top pivoted to the gate post. The upright is swung backward and upward to open the gate, being actuated by a bell-crank lever upon a shaft extending to posts up and down the road, and turned by a crank or lever.

*Claim.*—First, a self-closing gate, when arranged so that it is brought through the slotted post B and into an inclined position when opened, substantially as herein shown and described.

Second, the gate E, when consisting of horizontal bars *b b*, pivoted to pickets *c*, and when pivoted to a suspended bar F, in combination with the shaft G, having the crank *g* and the handles *f f'*, all made and operating substantially as herein shown and described.

Third, the above, in combination with the locking levers H H, connected by a rod *i*, substantially as herein shown and described.

**72,478.**—LEROY A. GLEASON, Sonthington, Conn.—*Machine for Folding Sheet Metal*.—December 24, 1867.—The moving folding bar is adjusted by cams to form either a round or sharp bend in the sheet metal. The said bar is hinged to the bed plate by



arms having rollers pressing against cams of the rock shaft and hinged frame, to cause the clamping of the plate while being operated upon.

*Claim.*—First, the combination of the folding bars F G, disk *c c'*, frame D, rod H, cams *l*, and arms K, operating as described, for the purpose of making a round or sharp bend, substantially as herein set forth.

Second, the combination of the folding bar F, hinged arms K, hinged frame D, upright rods *e*, secured to the plate E, rod H, cams *l*, and arms *o*, all operating as described, for the purpose of clamping the metal to be folded, as and for the purpose specified.

**72,479.**—E. H. GOELET and E. B. GOELET, Goldsborough, N. C.—*Cotton Cultivator*.—December 24, 1867.—The outward-turning shares are followed by an oscillating chopper, and that by two shovel plows.

*Claim.*—First, the arrangement of vibrating knives or hoes *g g* between the scrapers H H and the sliding plows J J, in a two-wheel machine, substantially as and for the purposes described.

Second, the right and left-hand knives *g g*, formed on or applied to shanks *e e*, secured together and applied to a rock shaft G, substantially as described.

**72,480.**—OSCAR GOERKE, Brooklyn, N. Y.—*Stereoscope*.—December 24, 1867.—The views are secured to blocks on an endless belt revolving on two rollers, the lower one being vertically adjustable.

*Claim.*—First, the picture-holder C, constructed as described, consisting of the end wires *e'* in the bars *e<sup>3</sup>*, their upper ends bent to form a horizontal loop for the ends of the pictures, and the central pin *e<sup>2</sup>*, as herein shown and described.

Second, the construction of the octagonal rollers D E, endless belt B, picture-holder C, sliding bar F, guides G, cord H, and pin I, all arranged and operating as herein described, for the purpose specified.

Third, the combination of the set or adjusting screws I, cords H, sliding bars F, and flanges or keepers G, with each other and with the shaft or cylinder E and box A, substantially as herein shown and described, and for the purpose set forth.

**72,481.**—GEORGE W. W. GOODWYN, New Orleans, La.—*Filter*.—December 24, 1867.—The water is poured into the exterior vessel, and flows upward in the filter, into the interior chamber of the inside vessel; an annular space containing non-conducting material being interposed between the inner and outer chambers. The filter is cylindrical and has a perforated top and bottom.

*Claim.*—The combination of the exterior vessel A with the inner vessel C, provided at its lower end with a filter chamber E, all constructed and arranged substantially as and for the purpose set forth.

**72,482.**—ROBERT GOOLE, Abingdon, Ill.—*Car Coupling*.—December 24, 1867.—Each car has two bumpers, one of which has a link and the other a coupling bar. The bars are self-coupling and may be uncoupled by arms extending from a shaft rocked by a hand lever.

*Claim.*—First, the bar *g* upon the shaft F, provided with the slotted arm *i*, fitting over the head of the set screw J in the inner end of the pivoted hook D, in combination with the lever K and chain *l*, as herein described for the purposes specified.

Second, the arm *h*, in combination with the hooks D and shaft F, as herein described, for the purpose specified.

Third, the car coupling, constructed as described, consisting of the hooks D and links C upon each side of the draw heads B, rock shafts F, bar *g*, arms *h*, slotted arm *i*, set screw J, chain *l*, and lever K, all constructed and arranged to operate as herein shown and described.

**72,483.**—F. HAASE and WILLIAM ROST, Proviso, Ill.—*Skate*.—December 24, 1867.—Explained by the claim and illustration.

*Claim.*—A skate frame, provided with the laterally-adjustable toe clamps E, the adjustable sliding clip G, made to embrace the shank I, and being held in place by the spring *g'*, engaging in the notches in shank I, and the heel clip H, operated by the screw S, all arranged to operate substantially as shown and described.

**72,484.**—G. HABERLAND, Pontiac, Ill.—*Combined Horse and Wagon Brake*.—December 24, 1867.—Straps around the horse's legs and levers operating the brakes are connected by chains to a drum on the wagon, by whose rotation the horse is hampered and the brake applied.

*Claim.*—First, a horse brake, consisting of the front-leg straps G G, hind-leg straps I I, and cords or lines J and J', the latter fitted over pulleys *l*, and all combined with the drum D, arranged in the front part of the wagon, substantially as herein shown and described.

Second, the above, in combination with the wagon brake *f f*, connected with the drum by means of a cord or line *h*, and provided with a lever *i*, substantially as herein shown and described.

**72,485.**—PATRICK HANLY, New York, N. Y.—*Horseshoe*.—December 24, 1867.—The calks are upon plates which are secured to the shoe by screws and are detachable when not required.

*Claim.*—The bevel *a* in the horseshoe, the plates B G, and their connections, substantially as and for the purposes described and set forth.

**72,486.**—WILLIAM HARRIS, Rush Run, Ohio.—*Nut Fastening*.—December 24, 1867.—The nut has a recess which receives a small, cam-shaped block with a square perforation, by which it is turned to bite the bolt and prevent loosening of the nut.

*Claim.*—A nut, which is provided with a perforated locking cam, substantially as described.

**72,487.**—HUBERT C. HART and JOHN R. BLAKESLEE, Unionville, Conn., assignors to H. C. HART and LUTHER T. MOSES, same place.—*Tapping Nuts*.—December 24, 1867.—The nuts are contained in a box, which is tilted periodically by the vertical movement of a rack bar, impelled by a segmental rack upon a rotating wheel. The gate of the box is raised on its descent, and a nut deposited beneath the tap, which is elevated by the cam, and descends by its own weight.

*Claim.*—First, the combination of the shaft *e*, cam *h*, lever *h'*, and drill spindle *l*, substantially as described.

Second, the employment of the tooth wheel *k*, rack *k'*, nut box *m*, conductor *m'*, belts *s s*, to introduce the nuts to the action of the tapping tool *i*, substantially as and for the purpose described.

Third, the belt shifter *q*, constructed substantially as described, in combination with the drill and drill spindle, all arranged and operating substantially as set forth.

Fourth, the improved machine for tapping nuts, constructed and operating substantially as set forth.

**72,488.**—HOWARD HARTLEY, Pittsburg, Pa.—*Lining Hose*.—December 24, 1867.—A cylindrical core has a spiral strip wound on and riveted thereto, forming a screw. The spiral lining strip is wound around the core beside the thread, and the whole inserted in the hose. The screw is then withdrawn, leaving the lining strip within.

*Claim.*—The herein described method of inserting and attaching spiral metallic lining to hose.

**72,489.**—JOHN M. HARVEY, Buchanan, Va.—*Steam Generator*.—December 24, 1867.—The lower boiler has a longitudinally concave top, and is connected by vertical pipes with an upper boiler, whose bottom is parallel to the top of the other. This flue chamber extends transversely to the side walls, and upward and downward at each side of the boilers.

*Claim.*—The construction and arrangement of the within-described steam generator, in a manner substantially as shown.

**72,490.**—HARVEY J. HARWOOD and WILLIAM H. MICKLE, Utica, N. Y., assignors to HARVEY J. HARWOOD and JOHN F. SEYMOUR, same place.—*Machine for Threading Screws*.—December 24, 1867.—The thread is impressed between the two dies reciprocated by the compound crank. The guide blocks are alternately brought to position as guides for the shank, and separated sufficiently to allow the head to drop through, the dies simultaneously presenting an aperture for the passage of the head.



*Claim.*—First, the combination of the reciprocating dies A and B, and guides *k l* and *m*.

Second, the construction of the curved parts of the threads on the die that forms the point of the screw of increased pitch, as described.

Third, the channels *v v v*, in the dies A and B, that extend beyond the part of the die that forms the point of the screw.

Fourth, the general arrangement of the parts whereby the dies are enabled to operate upon two screws during each revolution of the crank E.

Fifth, the opening and closing of the guides *k l* and *m*, in the manner and by means substantially as described.

Sixth, the guides *k* and *l*, and their arms *o* and *n*, arranged in the manner and for the purpose described.

**72,491.**—NATHAN HAYS, WILLIAM DUNCAN, and E. H. BOWEN, Vinton, Iowa.—*Tool for Sharpening Shoe Calks.*—December 24, 1867.—The cutter frame is clamped to the shoe, and the calk sharpened by rotation of the cutter.

*Claim.*—The combination of the lever A with the jaw *a*, the pivoted dog B, the forked lever C, and the rotary cutter *d*, constructed, arranged, and operating substantially as and for the purpose described.

**72,492.**—EDWIN A. HILL, Quincy, Mass.—*Machine for Punching Rubber Inner Soles.*—December 24, 1867.—The series of punches pass through a guide plate, which serves also to hold the sole in place on the die plate, and to clear the sole from the punches at the top of the stroke when it is depressed below the punches for that purpose. Conical-ended guide pins enter the plate in advance of the punches. The platen block to which the punches are attached is depressed by pitmans at each end, which connect to revolving cranks.

*Claim.*—The machine, substantially as described, as composed of the die plate C, the punches *c*, the clearer F, the centralizers *i*, the depressers *m*, and their screws *o*, constructed, arranged, and combined together and with a frame A, and mechanism for giving vertical motions to the punches, centralizers, carrier, and depressers, as specified.

**72,493.**—EDWARD A. HOPKINS, Minneapolis, Minn.—*Door Plate and Letter Box.*—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the construction of an ordinary metallic and glass door plate with a double frame A and B, and the arrangement of B within A, so as to form a letter-box lid.

Second, the combination, with B, of the spring C and hammer D, for the purpose of striking the bell E as the lid falls, all substantially as and for the purpose set forth.

**72,494.**—B. B. HOTCHKISS, New York, N. Y.—*Combined Time and Percussion Fuse for Explosive Shells.*—December 24, 1867.—The "Borman" fuse at the discharging point is in contact with a chamber containing quick powder, and communicating with the interior charge of the shell.

*Claim.*—First, the employment, in an explosive projectile, of a quantity of quick-burning material L, permanently attached and protruded beyond the front, and directly exposed to the contact of flame on all sides, in combination with the surrounding Borman C, substantially as and for the purpose herein described.

Second, the magazine G of quick powder, arranged in direct contact with the Borman, and adapted to be ignited at the proper time thereby, and to increase the force with which flame is thrown into the shell, substantially in the manner herein described.

Third, in the cavity magazine G, arranged as represented, the use of powder in one or more large grains, in combination with the contraction *g*, smaller than said grains, and arranged to operate therewith and retain the powder but discharge the flame therefrom, substantially in the manner and for the purpose herein set forth.

**72,495.**—H. HUNT, Delavan, Wis.—*Gate.*—December 24, 1867.—The gate is supported on a compound inclined plane by common friction rollers, and is inclined to open or shut the gate. Operating cords

are passed over pulleys, and have weights to balance the gate.

*Claim.*—The arrangement and combination of pulleys J K attached to bracket H with cords *n* and *m*, used for operating gate L on planes F E, the latter having a curve Z, substantially as set forth.

**72,496.**—DANIEL HYRE, Union, Ohio.—*Well Refrigerator.*—December 24, 1867.—The vessel is formed as a cupboard, and is suspended from a windlass when lowering it into a well.

*Claim.*—The combination and arrangement, in a well refrigerator, of the several parts, viz: platform B, with doors C, frame A, cupboard D, roller E, wheels K and L, crank M, cords *n n*, pawl *h*, and friction block F, substantially as described and for the purpose set forth.

**72,497.**—WILLIAM R. ILES, West Rushville, Ohio.—*Machine for Boring Post Holes.*—December 24, 1867.—The screw is turned by spline connecting with the sleeve, which receives motion from the gearing operated by the winches. The auger shank is turned during the forward movement of the winches by a pawl clutch; but, when the winches are turned backward, the auger is raised without turning. The wings of the auger head are hinged, so as to allow the passage of earth upward; but to fold down and prevent its escape when the auger is raised.

*Claim.*—First, the bracket D, suspended on the journals *f f*, in combination with the gear wheels, substantially as described.

Second, the hinged valves or wings G', in combination with the cutting bits, substantially as shown and described.

**72,498.**—WILLIAM INMAN, Middletown, N. Y.—*Saw Mill.*—December 24, 1867.—The sides of the saw are grooved to engage bolts in the clamps and are held in position by the eccentric cam blocks.

*Claim.*—The securing of jig or muley saws to their slides by means of clamps B, composed each of a yoke or frame, with an eccentric fitted therein and attached to the saw slides, substantially as shown and described.

**72,499.**—HENRY JACKSON, New York, N. Y.—*Door Lock.*—December 24, 1867.—The tumblers are pivoted to the upper part of the bolt, and are raised into position by the key which acts on the lower part of the bolt. The latter has a pin engaging the segmental part of the tumblers, and drives them and the upper part back together; simultaneously contracting the expansible stump, which in that state enters the slot in the tumblers.

*Claim.*—First, the bolt B, composed of the two parts *a b*, the former, *a*, having the tumblers D attached, and the latter, *b*, provided with the pin *j*, to act against the tumblers in order to force them back, and with them the bolt, substantially as shown and described.

Second, the notches at the edges of the tumblers D, against which the pin *j* bears, in order to lock the tumblers after their slots *i* have been adjusted in line with the stump C, substantially as shown and described.

Third, the expanding stump C, in combination with the slide *b* of the bolt, provided with the slot *k*, for compressing the stump in order that the slots *i* may receive it, substantially as set forth.

**72,500.**—LEON JAROSSON, Lille, France.—*Bleaching and Scouring Hemp, Flax, and other Fibers.*—December 24, 1867.—The yarn is dipped into a cold alkaline solution, and then immersed in dry steam at a pressure between one and two atmospheres, and for one or two hours. After removal from the steam tank and rinsing, it is subjected to the usual action of chloride and acid. For dipping, the yarn is stretched on zinc rods in a frame, and alternately immersed and withdrawn by the revolution of a crank, by which the frame is suspended. For drying, the yarn is revolved on rollers within a chamber traversed by a blast of heated air.

*Claim.*—First, the apparatus represented in Fig. 1, for scouring the hanks of threads by means of dry steam.

Second, the arrangements relating to the whole of the successive cream coloring and bleaching of the threads, as illustrated in Figs. 2, 3, 4, 5, 6, 7.



Third, the drier for said threads, represented in Figs. 8 and 9.

Fourth, the drier for fabrics, as represented in Figs. 10 and 11.

**72,501.**—HANS J. JOHNSON, St. Peter, Minn.—*Corn Planter*.—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the bent lever H, pivoted bar or plate G, connecting rods F, rings E, and toothed clutch wheels D with each other and with the frame A, axle B, and hubs of the wheels C, substantially as herein shown and described and for the purpose set forth.

Second, the combination of the pivoted catches J, levers K, and bent lever L, with the toothed clutch wheels D, frame A, and suspended bars or plates M, substantially as herein shown and described and for the purpose set forth.

Third, the dropping spout N and bar or plate M, constructed as described, in combination with each other and with the bent lever L, substantially as and for the purpose herein set forth.

Fourth, the sliding frame R and adjustable bars T, in combination with the slide P, hopper O, and double incline *m'* upon the bar M, substantially as herein shown and described and for the purpose set forth.

Fifth, the combination of the arms S with the sliding frame R, and with the double incline *m'* formed upon the bar M, substantially as herein shown and described and for the purpose set forth.

Sixth, the combination of the spring W with the dripping spout N, substantially as herein shown and described and for the purpose set forth.

Seventh, the combination of the adjustable stops X with the dropping spouts N, substantially as herein shown and described and for the purpose set forth.

Eighth, the combination of the bent lever Y with the levers L, for the purpose of raising and holding the dropping device away from the ground, substantially as herein shown and described.

**72,502.**—WILLIAM K. JOHNSON, Cordova, Ill.—*Lever Lock for Wagon Brakes*.—December 24, 1867.—The self-locking lever engages the guide segment by friction, being impelled thereto by the spring upon the operating lever. The friction is relieved by drawing toward the main lever.

*Claim.*—First, the combination of a pivoted self-locking lever J and segment E with the vibrating hand lever G, substantially as described.

Second, the fixed segment E, passing through both the hand lever G and its pivoted spring-locking lever J, substantially as described.

Third, the stationary frame E F, in combination with hand lever G, locking lever J, spring b, and a connecting rod a, constructed and operating substantially as described.

**72,503.**—T. W. KENNEDY, Avon, Ill., assignor to himself and THATCHER NICKERSON, same place.—*Hand Truck for Moving Barrels, &c.*—December 24, 1867.—The hooks take over the upper chine upon which they are depressed by the downward movement of the jointed handle.

*Claim.*—The bent-lever handles d d, and the hooks h h, in combination with the truck A, constructed and operating substantially as and for the purpose herein described.

**72,504.**—H. A. KEPHART, Fletcher, Ohio.—*Farm Fence*.—December 24, 1867.—The inclined stakes have blocks pivoted to them, and the blocks press against the sides of the fence.

*Claim.*—The bars or buttons C, pivoted to the stakes B, and applied to the panels A in the manner substantially as shown and described.

**72,505.**—JOSIAH KIRBY, Cincinnati, Ohio.—*Bung Cutter*.—December 24, 1867.—The square blocks are placed in a vertical pile in the hopper, and fed automatically one by one to the plunger, by which they are forced through the circular cavity of the cutter, and formed into cylindrical blanks.

*Claim.*—First, the chisel or cutter D, with cylindrical cavity, in combination with the plunger c and feeding bar i, constructed and arranged substantially

as described, for the purpose of cutting bung blanks from separate square blocks of wood.

Second, the combination of feeding slide bar i, feed box C, guides o o, and spring o', for feeding successively one of a series or pile of bung blocks forward in exact line with the cutting edge of the chisel of a bung machine, operating substantially as described.

Third, the cutter D, feeding slide bar i, and plunger c, so arranged relatively to each other as that the cutter or chisel shall, when cutting, have at least two blocks or blanks in line with its cutting edge, and that at each stroke of the machine the cutter shall finish cutting one block or blank, and enter and partly cut a second blank, instead of cutting a single blank at each stroke, substantially as and for the purpose hereinbefore described.

Fourth, the cutter and feeding device of a bung cutting machine, arranged, substantially as hereinbefore described, as that each block as it is fed into the machine shall serve as a cutting board for the next preceding block.

Fifth, the use of the hinged bar m in the slot of the sliding feed bar i, in combination with the vibrating shaft h', whereby, by raising the bar m, the motion of the feed bar i is suddenly arrested without stopping the motion of other parts of the machine.

**72,506.**—CHARLES KIRCHHOFF, Newark, N. J.—*Candle Holder*.—December 24, 1867.—The weighted rod is bent into a hook immediately beneath the candle socket. The hook forms a means of suspension from the branch of a Christmas tree.

*Claim.*—As a new article of manufacture, the hook a b, in combination with rod d, ball f, and holder c, or any equivalent, when constructed and arranged in the manner described and for the purpose specified.

**72,507.**—JOHN KOCH, Brookline, Mass.—*Stairs*.—December 24, 1867.—The plate of cork is let into the step to prevent slipping and noise.

*Claim.*—The combination and arrangement of the plate of cork with the stair step, the whole being as and for the purpose hereinbefore specified.

**72,508.**—NATHAN LAWRENCE, Taunton, Mass.—*Syringe Valve*.—December 24, 1867.—The valve guide stem has an end knob, by which its falling out is prevented.

*Claim.*—The syringe valve B, when placed within the metallic cylinder A, with its stem extending into the smaller portion of the cylinder, and prevented from falling out by means of the transverse rod D or projections a, as herein shown and described.

**72,509.**—J. O. LEWIS, Worcester, Mass.—*Card Grinding Cylinder*.—December 24, 1867.—In place of the usual smooth face for the reception of emery, the face is grooved out circumferentially and longitudinally, leaving teeth which are hardened at their extremities.

*Claim.*—Making the rim or metal part B with a series of teeth a, substantially as shown and described.

**72,510.**—M. C. LEWIS, Glasgow, Mo.—*Head Block*.—December 24, 1867.—Improvement on the patent of E. G. Dyer, November 13, 1860. The two hand levers are pivoted on the same fulcrum pin, each lever being connected by a separate rod with one of the head blocks. The levers work together, and move the head blocks simultaneously, enabling the sawing of parallel sided or tapering boards, fence posts, &c.

*Claim.*—The double hand levers a a', connected separately with the head blocks B B' by the rods d d', operating in such a manner that, when the levers are connected together, both head blocks are moved simultaneously, and, when disconnected, each lever moves a different head block, as herein described for the purpose specified.

**72,511.**—L. W. T. LODGE, Petersburg, Ky.—*Road Scraper*.—December 24, 1867.—The scraper plate is hinged to the standard, and its outer upper corners are connected by a bowed bar to the beam. The plate is held in position by a catch, and when it is released the plate turns back to discharge the earth.

*Claim.*—The arrangement of the scraper D, hinged to the broad heel plate a, the double catch b pivoted on the stock A, and held by the spring c, and the side springs d d, pivoted to the beam B and the upper cor-



ners of the scraper, all combined and operating as herein described.

**72,512.**—MICHAEL LOUGHRAN, Pittsburg, Pa.—*Machine for Rolling Clevis Blanks.*—December 24, 1867.—The faces of the rolls are grooved in such manner as to swage a bar passed between them into a series of clevis blanks.

*Claim.*—One or more grooves *c* in the periphery of one of a pair of cylindrical rolls, with one or more notches or depressions *i* in the bottom of each such groove, all of the form substantially as described, in combination with the notched or mortised guides *n*, for the purposes above set forth.

**72,513.**—JAMES B. LYONS, Litchfield, Conn.—*Apparatus for Digging Peat.*—December 24, 1867.—The scoop is calculated to enter the peat when it falls, and has one side which is drawn in at the bottom to retain the load, being moved by an arm to whose end the hoisting rope is attached. When elevated, the shaft is held by the cam, and the hoisting rope may be freed for another descent.

*Claim.*—First, the clasp fork or scoop *H*, as constructed, for digging and elevating peat from the bed.

Second, the boom *D*, supported on a truck *d*, and circular rail *E*, for the purpose of raising peat and delivering it, so as to be easily removed for use.

Third, the peat digging apparatus, as attached to the vertical shaft, in combination with the boom, derrick, rope, or chain, pulleys, and windlass, operating substantially as herein specified.

Fourth, the arrangement and combination of the eccentric cam *k*, rod *n*, bell crank *m*, and handle *l*, for controlling the digging and delivering apparatus, substantially as and for the purposes set forth.

**72,514.**—JOHN MACLURE, Newark, N. J.—*Harness Pad.*—December 24, 1867.—The crupper loop is in a piece with the sub-plate which lies between the main plate and cover. The nuts of the check hook, terrets, and finishing screws are in recesses in the main plate. The ends of the plate have slots for attachment of the straps and recesses for the thread.

*Claim.*—First, the main plate *A*, constructed substantially as shown and described, for the purposes set forth.

Second, the sub-plate *B*, in combination with the plate *A*, substantially as and for the purposes described.

Third, the lugs *b* and *c* on the sub-plate *B*, substantially as and for the purposes described.

Fourth, the double-inclined planes *i*, the slot holes and grooves *J* on the main plate *A*, substantially as described and for the purposes set forth.

**72,515.**—JOHN MCNAIR, New Orleans, La.—*Machine for Producing Stereotype Molds.*—December 24, 1867.—The types are pressed into a plastic substance, and a stereotype mold obtained direct without setting up the type. The types are attached to the periphery of a series of disks, which turn freely on a depressible arbor. The table sustaining the mold is arranged to have the required movements to present the proper point to the type.

*Claim.*—First, a series of disks *B*, provided with two sets of types, and arranged with cords *d*, pins *e*, and weights *Q*, to operate in connection with an index plate *K*, substantially in the manner as and for the purpose set forth.

Second, the method, herein shown and described, of justifying or spacing and correcting the types *J* composing a word or sentence, and clamping the disks *B*, as set forth.

Third, releasing the pins *e* from the perforations in the plate *K*, by swinging down said plate, or by any equivalent means, as herein shown and described.

**72,516.**—NATHAN F. MATHEWSON, Barrington, assignor to himself and WILLIAM C. GREEN, Providence, R. I.—*Window Sash Lock.*—December 24, 1867.—The bolt forms part of the perimeter of the spur-toothed sector, and turns in a case which is let into the horizontal bar of one sash and engages that of the other.

*Claim.*—First, the combination of the toothed sector and gear, provided with a key socket, or its equivalent, with the radial swing bolt, applied to a case, as specified.

Second, the combination and arrangement of the spring dog *g* with the radial swing bolt, its toothed sector, and the operative gear thereof, as provided with a key socket, or its equivalent, as set forth.

Third, the arrangement of the radial spring bolt and its operative mechanism and receiving socket with the two bars *i k* of the two sashes, in manner as specified.

**72,517.**—JEROME MAYBERGER, New York, N. Y.—*Banjo.*—December 24, 1867.—The head is supported on knobs secured to the edge of the annular drum.

*Claim.*—First, the annular drum *B*, when provided with a perforated sound board *a*, substantially as and for the purpose set forth.

Second, the head *C*, when constructed as described and when provided with supports *g*, in combination with the annular drum *B*, the same having a perforated sound board, as set forth.

**72,518.**—SILAS McCULLOUGH and ALEXANDER ROBINS, Buffalo, Ohio.—*Post Driver.*—December 24, 1867.—The monkey is drawn up by the claw levers, which are automatically tripped by an adjustable block. The standards have segmental braces, by which their inclination may be adjusted.

*Claim.*—First, a post or pile driver, constructed with longitudinal beams *A A* resting on rockers *C C*, which act in conjunction with the slots *d*, all constructed and combined substantially as described and for the purposes set forth.

Second, in a post or pile driver thus constructed, the hinged posts *B B*, provided with braces *D D*, constructed and operated as described, and for the purposes set forth.

Third, in like combination, the adjustable inclines *h h*, as and for the purposes set forth.

**72,519.**—S. C. MEGILL, Newark, N. J.—*Railroad Switch.*—December 24, 1867; antedated December 14, 1867.—The switch is arranged for a locomotive approaching on either of the converging tracks to connect that track with the single one. The weight of the car on the obtuse angle of the lever shifts the switch in advance of the train.

*Claim.*—The construction and arrangement of the bent lever *E* pivoted to the tie *F*, its inner arm *a* connected to the bent lever *H* by the jointed rod *G*, its outer arm *c* connected to the angular lever *J* by the bent rod *I*, and its arm *d* pivoted to the transverse rod *e* bearing the switch rails *C*, all operating as described, for the purpose specified.

**72,520.**—GEORGE F. MERKLEE, New York, N. Y.—*Hot-air Furnace.*—December 24, 1867.—The caloric current rises into a dome, from which it descends and passes horizontally between the air pipes and into an annular chamber, from whence it is received into the central discharge flue. The air enters a chamber surrounding the fire pot, and flowing up a flaring corrugated annulus capping the said pot, passes into the air jacket and the central space, and from thence to the exit holes.

*Claim.*—First, the combination in an air-heating furnace of the plate *G*, constructed substantially as described, with the air passages *I I I I I* and annular flue *b*, for the purpose as set forth.

Second, the combination in an air-heating furnace of the dome *e*, air passages *I I I I I*, and annular flue *b* with the cylinder *J J*, or its equivalent, substantially as and for the purpose set forth.

**72,521.**—RALPH S. MERSHON, Zanesville, Ohio.—*Graver.*—December 24, 1867.—The tool is held in a socket of an adjustable segmental plate, which is retained to adjustment by a set screw.

*Claim.*—First, a graver, so connected to its handle or holder that its cutting edge can be adjusted substantially as and for the purpose described.

Second, a graver, having a short base *a* and continuous face line *b*, substantially as and for the purposes specified.

**72,522.**—WILLIAM A. MEYER, Indianapolis, Ind.—*Composition for Tempering Steel Springs.*—December 24, 1867.—Composed of prussiate of potash, 3 lbs.; muriate of ammonia, 3 lbs.; borax, 3 lbs.; rosin, 3 lbs.; crude lubricating oil, 16 galls.

*Claim.*—A compound of prussiate of potassa, mu-



riate of ammonia, borax, rosin, and crude lubricating coal oil, mixed in proportions as before stated, for the purpose of tempering steel springs.

**72,523.**—JACOB MILLER, Canton, Ohio.—*Harvester Dropper*.—December 24, 1867.—The dropper is so connected to the main frame by rods, rock shaft, and levers as to be operated by the hand or foot of the driver.

*Claim.*—So uniting the dropper by means of rods and levers to the hand lever *i* or *h* and to the foot lever *m*, as that the driver in his seat, by means of a long lever extending up thereto, may work the dropper by his hand, or by his foot, through a separate connection, or by both together, under an arrangement of parts substantially as herein described.

**72,524.**—EDWARD L. MOLINEUX, New York, N. Y.—*Putting up Blueing and other Dyes*.—December 24, 1867.—The blueing is put in bags ready for use, and each bag is packed in a small box for sale.

*Claim.*—The method of preparing and packing soluble dyes or colors, substantially as herein described and for the purposes set forth.

**72,525.**—R. W. MORAN, Chicago, Ill.—*Corn Planter*.—December 24, 1867.—The seeding wheels are upon the main axle, and extend from the hopper to near the ground level. The seed cavities traverse the rim radially and have plungers at bottom, which are retracted to allow reception of seed and are projected to force the seed out, in case the seed or clods should become jammed in the cavity. A metallic case around the front side of the wheels prevents the release of the seed until the proper movement.

*Claim.*—First, the drums *F F*, applied upon the axle *B* of a two-wheel frame, and provided with hoppers *E E*, guards or aprons *G G*, and plungers *b b*, which latter are applied in the cells *a a*, and caused to press the grains of corn into the ground, substantially as described.

Second, applying both drums *F F* upon the turning axle *B*, in such manner that said drums can be stopped or started at pleasure while the machine is being moved along, in combination with devices applied to the cells of said drums, which will automatically force the corn into the ground, substantially as described.

Third, providing the movable plungers *b b* with levers *c*, guides *e*, and spring pieces *a*, substantially in the manner and for the purposes described.

Fourth, the markers *J*, applied to adjustable drums *F*, in lines with the seed cells thereof, substantially as described.

**72,526.**—WILLIAM MORGENSTERN, Hartford, Conn., assignor to himself and CHARLES HEROLD.—*Breech-loading Fire-arm*.—December 24, 1867.—The rear end of the firing pin projects from the breech-block similarly to a nipple, and has longitudinal movement. The breech-block is secured in its place for firing by a turn of 90° after being brought into the recess.

*Claim.*—The double-acting rotating and swinging breech-piece *d* hung upon the extractor hinge-piece *e*, with the spring *e'*, arranged and operating substantially as described.

**72,527.**—JOHN MORTON, Winchester, Ind.—*Railroad Track Lifter*.—December 24, 1867; antedated December 7, 1867.—Improvement on his patent March 19, 1867. The longer arms of the levers are depressed by cords extending downward under pulleys which are secured to the braces, and thence to the axle which has a spur wheel driven by a pinion turned by a wheel.

*Claim.*—First, the combination of the levers *A* for raising railroad tracks, with the chain or cord *C*, and the mechanism for actuating the same, substantially as set forth.

Second, the arrangement of the mechanism for actuating the track-lifting levers *A*, said mechanism consisting of the parts *C D E F G* and *H*, substantially as herein described.

Third, the combination of the pedestal *K*, post *L*, braces *B*, and track-lifting levers *A*, arranged to operate substantially as and for the purpose set forth.

**72,528.**—DON J. MOZART, New York, N. Y.—*Watch*.—December 24, 1867.—An impulse is given to the balance-wheel in one direction through the staff, and in the other direction by passage of a tooth to the escape wheel, over and by an eccentric detent which is connected, through a trip, with the balance staff. The staff is independent of the "train," except when the impulses are received.

*Claim.*—First, an escapement for watch or other time or other similar movements, in which are combined a cut-out staff and a cut-out eccentric detent, or their respective equivalents, connected together through a trip-lever or other suitable device or devices, when both are constructed and arranged together for operation by the escape-wheel, substantially in the manner and for the purpose described.

Second, a cut-out staff, a cut-out eccentric detent, and a trip-lever having one or more side arms, with its working faces curved or circular in shape, or any equivalent therefor, respectively, in combination with the escape-wheel of a watch or other time or other similar movements, substantially as described, for the purpose set forth.

**72,529.**—GEORGE MURRAY, Cambridgeport, Mass., assignor to himself and JOHN C. CHAPMAN, same place.—*Valve for Steam and other Enginery*.—December 24, 1867.—The valve has a hollow plug made in two parts and affording direct passage. An additional opening is made through one side of the plug so that when it is turned to close the passage the steam or water will pass into the interior of the plug, and by centrifugal pressure cause its expansion to render the joints tight.

*Claim.*—The hollow expansion plug *B* made in two or more parts, with the spring *e*, and provided with a direct passage *f*, and an additional opening *g* for the entrance of the steam or water when the valve is closed, substantially as and for the purpose described.

**72,530.**—AUGUSTUS W. NEWELL, Bradford, Pa.—*Steam Generator*.—December 24, 1867.—The steam generator is made in cylindrical sections which are placed end to end. Air is admitted between the sections to assist combustion. The steam drums are connected by pipes.

*Claim.*—First, the apertures *F F F*, &c., between the sections, for the purpose set forth.

Second, the combination and arrangement of the sections *A A*, &c., the lugs *B B*, &c., or their equivalents, the steam pipes *C C*, &c., provided with expansion joints *D D*, &c., or their equivalents, and the apertures or openings *F F*, &c., when constructed substantially as and for the purposes described.

**72,531.**—GEORGE H. NOBLE, Lowell, Mass.—*Step for Spindles*.—December 24, 1867.—The case has a capped step, which, when inserted in its seat, forms a chamber for reception of lubricating oil.

*Claim.*—The spindle *k*, with its cap *j*, receiving holes *i i*, and distributing holes *e e* and case *a*, the whole constructed, arranged and combined substantially as and for the purpose herein specified.

**72,532.**—HARVEY D. PALMER and JAMES H. BEARD, Leonidas, Mich.—*Sleigh*.—December 24, 1867.—The wheels are journaled at the ends of pivoted arms, and may be let down by the driver to support the sleigh when passing over bare ground.

*Claim.*—First, the employment of the wheels attached to the arms *E E E E*, and working in the slotted braces *C C C C*, substantially as shown, for the purposes and uses expressed.

Second, the actuating-lever *K*, connecting-piece *G*, and slotted-levers *F F*, all as shown for the purposes described.

**72,533.**—GEORGE PATTEN, Chester, Pa.—*Machine for Removing Molded Forms from the Press*.—December 24, 1867; antedated December 7, 1867.—The freshly molded block of artificial stone is grasped between the adjustable palms, and is raised, swung around, and deposited on the off-bearing truck.

*Claim.*—First, the adjustable palms *P P*, in combination with the slides *e e* and vibrating-lever plate *D*, or their equivalents, automatically operated to grasp a molded form with the pressure requisite for removal, substantially as set forth.

Second, automatically grasping and releasing mold-



ed forms by the action of the conveying mechanism, substantially as set forth.

Third, the combination of the feed-arm with the conveyer and receiver, substantially as set forth.

Fourth, the plate F, or its equivalent, constructed and operating substantially as set forth.

**72,534.**—WILLIAM B. PATTON, Harrisburg, Pa., assignor to WILLIAM A. MIDDLETON, same place.—*Ice Creeper.*—December 24, 1867.—The crown disk is slotted from its centre toward one side and has ears at the centre. A wood-screw, from which the head has been removed, is pivoted to the ears and when unused lies in the slot. The disk is attached by the screw to the heel of the boot, to prevent slipping on ice.

*Claim.*—The peculiar combination of a pivoted or folding screw *a*, with the disk A, constructed and operating substantially as herein set forth and for the purpose described.

**72,535.**—THOMAS PAYNE, Grand Rapids, Mich.—*Churn.*—December 24, 1867.—The vertical, rotating dasher-shaft has arms crossing each other diagonally.

*Claim.*—The oblique beaters H, attached to the rotating shaft C in the cream receptacle, substantially in the manner as and for the purpose herein set forth.

**72,536.**—W. W. PECK, Cassapolis, Mich.—*Gate and Barn Door Fastening.*—December 24, 1867.—The latch is between two horizontal plates and is kept down upon the catch by a spiral spring between the lower plate and the latch. The latter has a backward projection by which it is operated.

*Claim.*—First, the removable extension-handle F, in combination with the spring-latch D, box E, and catch *b*, substantially as herein described for the purpose specified.

Second, the box E, when provided with tongue *e*, the spring *d*, and the catch D, the latter being provided with projections *f* and catch *b*, in combination with each other and with the lever F, all made and operating substantially as herein shown and described.

**72,537.**—RUFUS D. PETTIT, Baldwinsville, N. Y.—*Rotary Steam Engine.*—December 24, 1867.—The abutments are on each side and their salient parts have adjustable brass blocks. The retraction of the pistons commences immediately after passing the exhaust ports. The pistons are forced out by steam admitted behind them.

*Claim.*—The combination of the cylinder A, exhausts K K *k k*, induction L L *l l*, abutments E E, disk B, and sliding pistons F, with actuating steam-chambers and conduits G H *h h*, valves I, and packing-rings M M', all constructed, arranged, and operating substantially as and for the purpose specified.

**72,538.**—JOHN RADDIN, Lynn, Mass.—*Carriage Wheel.*—December 24, 1867; antedated December 10, 1867.—The spokes rest against elastic blocks in the tubular rim.

*Claim.*—In the construction of carriage wheels, making the felloe or rim thereof of wrought-metal tube, the outer surface of which is flattened and surfaced by a tire, substantially as and for the purposes set forth.

Also, in combination with such tubular felloe, the elastic cushions, arranged to operate substantially as described.

**72,539.**—JAMES L. REBER, Philadelphia, Pa.—*Cane and Thermometer Combined.*—December 24, 1867.—Explained by the claim.

*Claim.*—The combination of a thermometer with a walking-cane, substantially as described for the purpose specified.

**72,540.**—CULLIN W. REED, Chagrin Falls, Ohio.—*Horse Hay Fork.*—December 24, 1867.—The straight and curved tines are pivoted to the opposite ends of a bar, to whose middle the tripping lever is pivoted. The hoisting rope is connected to the curved tine, and the tripping lever rests against the upper end of the straight one.

*Claim.*—The tines B and C, bars A, latch D, and cords E and F, when the same are combined and ar-

ranged substantially as described and for the purpose set forth.

**72,541.**—WILLIAM REYNOLDS, Columbia, S. C.—*Artificial Teeth.*—December 24, 1867.—The bases of the teeth are attached to a thin strip of gold, the backing metal having a thin point carried around the same.

*Claim.*—First, the bar *a*, formed of gold or other suitable metal, adapted for the prevention of fractures in the anterior and lateral portions of the plates, and as an attachment for the teeth, substantially as described.

Second, the thinned extension *b* of the backing, of form and mode of adaptation to the bar, as herein described and shown.

**72,542.**—JOSEPH H. RICHARDSON, Philadelphia, Pa.—*Lantern.*—December 24, 1867.—The lower part of the lantern is made air tight, and the air to supply combustion comes through the perforations of the cap. The caloric current passes through an upwardly tapering vent, discharging through the cap.

*Claim.*—First, the perforated cap C, in combination with a lamp F, fitted within or upon the base A of a lantern, substantially as and for the purpose specified.

Second, the double walls *a a*, when filled in with suitable material to form an air-tight joint, in combination with the globe or chimney B and ring *c*, encircling the base of the same, substantially as herein shown and described.

Third, the tube G and plate *e*, in combination with globe B and an air-tight joint around the lamp F, substantially as and for the purpose set forth.

**72,543.**—HORACE A. ROBISON, Cleveland, Ohio.—*Weather Strip.*—December 24, 1867.—The weather strip is secured to its bracket by a strip of rubber the whole length of both pieces. At the lower side of the hanging piece is a strip of rubber, packing against the threshold, and on its inner side is a rubber cushion, preventing jar.

*Claim.*—The combination of the strips B and C, united by the rubber strip *e* running the entire length of the strips B and C, the spring *f*, and the rubber strip *g*, all constructed in the manner as and for the purpose set forth.

**72,544.**—NIRAM RUSSELL, Harrison, Ohio.—*Earth Conveyer.*—December 24, 1867.—The jointed frame allows of the conveyer being placed in position upon an uneven support. The flap opens outward when beneath, and discharges any dirt that may have accumulated inside of the apron. The adjustable carrier is hung beneath the discharging end at an incline, so that the weight of the dirt will cause the revolution of the apron upon it.

*Claim.*—First, the arrangement of the jointed frame A A' B B' C C', endless carrier *f*, and pivoted flap *f'*, as herein described and for the purposes set forth.

Second, in combination with the above parts the adjustable bar H and adjustable carrier K, as and for the purpose set forth.

**72,545.**—JOHN SCHOLL, London, England.—*Gas Burner.*—December 24, 1867.—The very thin plate of platinum is secured to the burner by a collar or catches, and occupies a central position parallel with the sides of the fan-shaped flame.

*Claim.*—The application and use to and in gas-burners, substantially as hereinbefore shown and described, of a narrow and thin strip of platinum, for the purpose set forth.

**72,546.**—THOMAS SEALY, Newark, N. J.—*Process of Manufacturing Hats.*—December 24, 1867.—Explained by the claim.

*Claim.*—The process of manufacturing an inlaid hat by inserting the colored pattern yarn transversely through the hat body of a different color previous to the completion of the felting, and then felting the said body and finishing it without dyeing it, substantially as hereinbefore set forth.

**72,547.**—R. B. SEARS, Providence, R. I.—*Machine for Bending Hooks.*—December 24, 1867.—The blank is clamped to the "former," and its end bent



around it by the rotating, eam-shaped follower block.

*Claim.*—First, the arrangement of the crank shaft I, arms *h*, shaft H, cranks *g*, shaft *c*, and gear wheels *i* and *j*, all made and operating so as to impart a double oscillating motion to the cam G, substantially as set forth.

Second, making the die or inside former D of two parts, substantially as and for the purpose herein shown and described.

Third, in combination with the above the die D, made in two parts, and the follower E, all constructed, arranged, and operating substantially as described and represented.

Fourth, the combination of the cavity *f*, die D, pin *e*, and follower E, as and for the purpose described.

Fifth, the combination of the follower E, crank shaft F, and pin *e*, substantially as described and represented.

**72,548.**—SAMUEL F. SHADBOLT, Huntington, N. Y.—*Valve Stopper for Jars, Bottles, &c.*—December 24, 1867; antedated December 12, 1867.—The edges of the rubber disk are placed in a groove in the neck of the bottle, and retained by a wire which lies in the groove, and whose ends hold down the transverse valve shaft over the rubber. The valve opens outward and is raised by turning the shaft.

*Claim.*—A valve stopper for bottles, composed of rubber, or its equivalent, attached to a shaft, substantially as described and for the purpose set forth.

**72,549.**—JOHN SHARTLE, Lima, Ind.—*Gate.*—December 24, 1867.—The lower hinge is semi-circular and rests against the side of the round post. The pintle of the upper hinge is attached to an extension of the top bar and enters the post top axially. The top bar is hinged to the front upright and slides vertically in the rear one, being drawn down by a rope coiled on a ratchet roller to raise the gate in time of snow.

*Claim.*—The bar or rail F', pivoted at one end to a gate, and at the other hung to a gate post A, in combination with the windlass drum I, hung to the gate and connected to said rail F' by the cord H, substantially as above set forth and described.

**72,550.**—ADRIAN SHAW, Westford, Mass.—*Machine for Making Horse-Shoe Nails.*—December 24, 1867.—The hammer is hung to the end of a revolving cross-arm. Simultaneously with the descent of the hammer the anvil moves upward; immediately after the blow the anvil moves downward and backward. Two side hammers act on the nail rod simultaneously.

*Claim.*—The side hammers N, connecting rod P, and slide bars Q, in combination with each other and with the cams M, levers R L, and springs T, substantially as and for the purpose specified.

**72,551.**—GEORGE H. SHEARER, Bay City, Mich.—*Sawing Machine for Barrel Hoops.*—December 24, 1867.—The saw shaft has journal bearing either above or below the guide rollers. The guide rollers are kept in their journals by pins traversing the upwardly-projecting sides of the said journals.

*Claim.*—The metallic frame F, constructed as described, provided with the journal boxes *a b*, one above the other, holding the arbor G above or below the board to be sawed, and also provided with the open bearings upon each side of the arbor G for the removable shafts I K, all arranged as described for the purpose specified.

**72,552.**—THOMAS W. SHEPARD, Hennepin, Ill.—*Potato Digger.*—December 24, 1867.—The potato vines are drawn in from each side by the dragging arms. The potatoes are dug by the plow, and removed from the vines and dirt by the grate at the rear of the plow. The plow beam is adjustable vertically by a lever.

*Claim.*—First, the plow E, when constructed with the horizontal sharp edge, the convex upper surface, the bars *e e c*, and the supporting rods F F, the main portion of the plow consisting of a steel plate of the crescent form shown and described, when all the parts of said plow are constructed, combined, and arranged substantially as and for the purpose set forth.

Second, the device, consisting of the arms N N,

teeth *n n*, cross-bar O, or its equivalent, and chain P, for the purposes above set forth

Third, the method of regulating and adjusting the plow E, as above described, by combining the plow, the rear axle, the swinging reach G, and the lever L, substantially in the manner set forth.

**72,553.**—THOMAS SKINNER, Pittsburg, Pa.—*Method of Forming Designs upon Metals, Ivory, &c.*—December 24, 1867.—To produce ornamental figures upon steel, the design is first engraved upon a copper plate. A proof is taken upon thin paper with ink made by boiling oil to a viscid consistence and adding a little lampblack. The design is transferred to the steel plate, and the paper is removed with water, leaving the ink upon the steel. The plate is then coated with a light spirit varnish. The ink is removed by application of oil of turpentine, and dilute acid applied to act only on the parts previously covered by the ink. After removal of the acid by water the varnish is removed by benzine.

*Claim.*—The herein-described method of preparing the design upon the article to be operated on preparatory to the etching process by the means of transfers, substantially as set forth.

**72,554.**—JAMES SLATER, Philadelphia, Pa.—*Steam Safety Valve.*—December 24, 1867.—The plug slides vertically in the lid of the valve chamber, and a point of the weighted frame rests upon it. When the pressure reaches a certain point the plug is ejected.

*Claim.*—A valve or indicator, constructed and arranged in its parts substantially as and for the purpose described.

**72,555.**—ALFRED E. SMITH, Bronxville, N. Y.—*Axle for Wagons.*—December 24, 1867.—The screw tap of the compensating axle has a flattened face and a D-shaped washer to form a bearing for the nut to act against in drawing on the hub.

*Claim.*—The D-shaped washer J, in combination with the screw cap H and diaphragm F, made and operating substantially as hereinbefore set forth.

**72,556.**—R. SNODGRASS, Jamestown, Ohio.—*Seed Planter and Cultivator.*—December 24, 1867.—The plow beams are hinged at the fore ends to the front cross-bar. The seed slides are actuated by a hand lever. The machine plants two rows simultaneously.

*Claim.*—First, the grooves *c*, in the upper surface of the slide F, in combination with the holes *b* in said slide and the holes *a* in the plate E, all arranged substantially as and for the purpose set forth.

Second, the chambers *d*, on the plates H, to receive the cut-off brushes *c*, in combination with the holes *b* in slide F and the holes *a* in plate E, for the purpose specified.

Third, the valves J, in the spouts I, when operated from the slide F, substantially in the manner as and for the purpose set forth.

Fourth, the adjustable beams M', arranged so as to be operated through the medium of the crank shaft P and lever R when said parts are used in connection with the upright T, provided with catches or projections *k k*, all arranged substantially as and for the purpose specified.

Fifth, the adjustable beams M' M', applied to the frame A, and operated through the medium of the treadle U and pendent rods *u u*, all arranged substantially as and for the purpose specified.

Sixth, the adjustable axles V V of the wheels B B, arranged substantially as and for the purpose set forth.

**72,557.**—J. S. STEWART, Homer, N. Y.—*Building Block.*—December 24, 1867.—Seven parts sand and two parts Rosendale cement are mixed with cold water. The compound is forced into iron molds and formed with a longitudinal and two transverse perforations, which are intended to communicate with those in the contiguous blocks, and to form a vertical and horizontal circulation throughout the wall.

*Claim.*—A building block, constructed with corrugated side and vertical and horizontal openings, substantially as and for the purpose described.



**72,558.**—LUCIUS S. STIMSON, Lowell, Mass., assignor to himself and JEROME B. MELVIN, same place.—*Instrument for Dyeing the Hair*.—December 24, 1867.—The teeth of the comb or the bristles of the brush are coated with dye in a hardened state, which is removed by the dampened hair in using the instrument.

*Claim.*—Coating or covering the teeth of a comb or the bristles or the wires of a bristle or a wire brush with coloring matter, as described, that the hair may be dyed or permanently colored by using said prepared comb or brush, substantially as specified.

**72,559.**—Cancelled.

**72,560.**—CHARLES E. STORRS, W. E. KEYES, and DAVID W. JONES, Grandville, Mich.—*Cultivator*.—December 24, 1867.—The shares have "jumping" cutters attached to their upper sides to enable them to ride over roots in plowing new ground.

*Claim.*—First, the scoop-shaped plows D, for cultivators, substantially as and for the purpose shown and described.

Second, a scoop-shaped cultivator plow D, secured to and forming part of a coulter or cutting edge C', substantially as and for the purpose shown and described.

Third, the plows D, in combination with the V-shaped frame, substantially as and for the purposes shown and described.

**72,561.**—O. W. STOW, Plantsville, Conn.—*Machine for Folding Tinned Plates*.—December 24, 1867.—The horizontal slide operates in connection with a bar revolving on adjustable bearings to form a lockbend in the plate. In the revolution of the bar its bearings are made to move by the action of the cams to form either a close or open fold at the edge of the plate. The edge of the plate is held between the fixed bearing plate and the movable bed, and the main part of the plate is folded over on the bed by the revolving bar.

*Claim.*—First, the slide L, in combination with the folding bar D, cams E, bed F, and adjustable bearings C, operating as described, whereby the bar, in the progress of its revolution, may be raised or moved to form an open or close lock or fold, substantially as described, for the purpose specified.

Second, the cams J E, pin K, and folding bar D, in combination with the arms I, slide L, bed F, and fixed bearing H, all operating as described, whereby the metal plate G<sup>+</sup> is held securely in position while being folded, substantially as described, for the purpose specified.

**72,562.**—JOSEPH SUTTER, New York, N. Y.—*Folding Table*.—December 24, 1867; antedated December 11, 1867.—One pair of the X-folding legs is attached to the top by hinges, and the other pair by pins entering slides on the under side of the table, so as to allow the legs to be folded and the top to hang against them. The legs remain connected to the table and the slides allow the motion of the tops of the legs.

*Claim.*—A table in which the bottoms of the X-folding legs are sufficiently spread to support the table when folded, and the upper ends of said legs are connected to the bed of the table in the manner specified.

Also, a folding table with the marble top cemented into a recess in the wooden bed, as and for the purposes specified.

**72,563.**—WILLIAM SYKES, Newton Lower Falls, Mass.—*Removing Burrs from Wool*.—December 24, 1867.—Improvement on his patent July 10, 1866. The wool is soaked in dilute sulphuric acid, and after drying may be dyed without previous washing.

*Claim.*—The immediate dyeing of the wool after the same is taken from the acidulous solution, and either previous to or after the drying of the wool, substantially as set forth.

**72,564.**—F. THIRY, Huy, Belgium, assignor to WARNER MILLER, Herkimer, N. Y.—*Apparatus for Controlling the Motion of Travelling Webs in Paper Machines, &c.*—December 24, 1867.—One end of the conducting roller is journaled on a sliding bearing,

connected to a screw which turns in a screw socket attached to the frame. The gauze or cloth runs between side guides on a transverse rule, connected by a bell crank and pitman to a compound pawl, pivoted to a shaft which is rocked by a crank on the movable journal of the conducting roller, and operating on a double-ratchet wheel upon the screw to give the journal a longitudinal motion in relation to the machine.

*Claim.*—The rule D, provided with the plates F F, and connected to the levers E E', in connection with the screw K, double-toothed wheel J, curved lever I, lever H, and crank G, on one of the journals of the conducting roller A, all arranged to operate in the manner substantially as and for the purpose herein set forth.

**72,565.**—NATHAN THOMPSON, Brooklyn, N. Y.—*Hose Coupling*.—December 24, 1867.—Improvement on his patent September 24, 1867.—One of the parts of the coupling has a socket, and the other is suitably shaped for its end to rest therein. The coupling latch is bowed, and its ends have projections which enter slots in lugs upon one part, its bow taking over the other part, and the cams pressing the parts together.

*Claim.*—The combination of a locking piece, pivoted upon one member of a coupling, with a guard or protector attached to or making part of the other member thereof, the combination being substantially as described.

**72,566.**—NATHAN THOMPSON, Brooklyn, N. Y.—*Pipe Coupling*.—December 24, 1867.—Explained by reference to the preceding, (No. 72,565,) and the claim and illustration.

*Claim.*—In combination with two flanges, making part of a coupling, ears, and a locking piece, which can be disconnected from and connected to the said lugs or ears, the construction of the parts being substantially such as specified.

Also, in combination with two flanges, making part of a coupling, and a locking piece, capable of removal and replacement, a socket, attached to one of the flanges and substantially surrounding the other, as described, the combination being substantially such as hereinbefore set forth.

**72,567.**—L. N. TINKHAM, Sylvania, Pa.—*Horse Hay Fork*.—December 24, 1867.—The curved tines are closed by toggle levers at their upper ends, to whose connecting block the hand cord is attached. The toggle is raised by the cord, and may be depressed by a lever to spread the tines when engaging the hay.

*Claim.*—The combination of the lever G or its substantial equivalent, with the slide C, connecting bar D, and tines B, substantially as herein shown and described and for the purpose set forth.

**72,568.**—WILLIAM D. TITUS, Brooklyn, N. Y.—*Plow*.—December 24, 1867.—The coulter is grooved rectangularly to the cutting edge to assist in keeping the plow in the ground.

*Claim.*—First, the malleable iron mould board d and share S in one piece.

Second, the grooves 1, 2, 3, 4, in the adjustable coulter c and the adjustable gauge wheel d, substantially as described and for the purpose set forth.

**72,569.**—HARMAN A. TREMPER, Hammononton, N. Y.—*Copy Holder*.—December 24, 1867.—The device may be clamped by a bracket to the desk. The copy is secured to each roller by a spring bar let into the roller. The bar is fixed by the ferrule at one end, and is held down by a movable ferrule at the other. The copy is wound upon the lower roller and is unwound therefrom and taken up to the other as wanted.

*Claim.*—First, the use of two rollers, A A, and the arrangement for securing the copy to them, consisting of the bars B B, the ferrules C C, and the movable ferrules D D, all combined and arranged substantially as described and for the purposes set forth.

Second, the spring guide G, with the slotted projections H H, substantially as described and for the purposes set forth.

Third, the method of arresting the motion of the rollers by means of the movable end piece or roller



support J, and the screw and thumb nut K, substantially as described and for the purpose set forth.

Fourth, providing the rod L with both a clamp arm or rod O, and a stand R, for the purpose of supporting the copy holder under different conditions, as set forth.

**72,570.**—WILLIAM ULRICH, Newark, N. Y., assignor to himself, C. M. THEBERATH, and JACOB H. THEBERATH, same place.—*Reflector*.—December 24, 1867.—The reflector is arranged for easy attachment to a gas burner, and may be revolved around so as to throw the light in any direction, or to shade any part of the room.

*Claim*.—First, the revolving and folding reflector, made and operating substantially as herein shown and described.

Second, hinging a reflector A to a bar B, which carries a ring, sleeve, or clamp, by means of which it can be secured to a burner or lamp, substantially as set forth.

Third, providing a revolving and folding reflector with a handle d, substantially as set forth.

**72,571.**—CHARLES VAN DE MARK, Phelps, N. Y.—*Cooking Stove*.—December 24, 1867.—The partition and guide plates are arranged to cause circulation of the caloric currents around boilers on the fore part of the stove before escaping to the rear.

*Claim*.—The partition plate G between the fire chamber A and heating chamber B, provided with one or more upper and one or more under valves h h and i i, substantially as and for the purpose herein specified.

Also, the boiler hole plate or plates D, and enclosing side plate or plates E, arranged in combination with partition valves h i so that the heat may be directed against the bottom part of a boiler or boilers I, only, or both against the bottom and around the sides thereof, substantially as and for the purposes herein specified.

**72,572.**—A. C. VARELA, Washington, D. C.—*Bee Hive*.—December 24, 1867.—Explained by the claims and illustration.

*Claim*.—First, the arrangement of two similar cubic boxes A and B, one inserted partly into the other in a direction parallel to the diagonals of a cube, and suspended in such manner that only one of their corners points upward, substantially in the manner shown and set forth.

Second, the arrangement of a weather proof cap d of metal, or any other suitable material, to cover the aperture e that admits the bees into the upper or honey box, as shown and described.

**72,573.**—GUSTAVUS WEISSENBORN, New York, N. Y.—*Machine for Making Peat Fuel*.—December 24, 1867; antedated December 11, 1867.—Explained by the claims and illustration.

*Claim*.—First, the construction of the frames of the machine solid or in two parts, so as to join them at or about the center of the shaft, and cast or bolt the lower half A<sup>2</sup> to the bed plate, and to make the upper frames A A and lower frames A<sup>2</sup> A<sup>2</sup> of wrought iron, or make the upper alone of wrought iron, substantially the same as described.

Second, the surrounding steam, hot air, or vacuum chambers V V of the pressing cylinder A<sup>5</sup>, to use one as a hot air chamber, and the other as a vacuum chamber, or both as a vacuum or steam chamber for oily or water vapors, in combination or separately with the perforated pressing cylinders, substantially the same as herein set forth.

Third, the combination of one, two, or more receivers A<sup>12</sup> with the horizontal feeders E<sup>3</sup> E<sup>3</sup> and vacuum and feeding chambers A<sup>10</sup> A<sup>10</sup> and A<sup>9</sup> A<sup>9</sup>, the same as herein described.

Fourth, the direct application of an eccentric, with or without a loose ring on its circumference, acting directly or with an intermediate movable or stationary steel or composition plate upon the pressing plungers C<sup>15</sup> and C<sup>14</sup>, and cross head C<sup>4</sup> C<sup>4</sup>, substantially the same as herein described.

Fifth, the application of the cross heads C<sup>4</sup> C<sup>4</sup> to operate in opposite directions, connected by four braces, or moving independent of each other, substantially the same as herein set forth.

Sixth, the arrangement for giving an independent

motion to the pressing plungers C<sup>14</sup> and D<sup>6</sup>, by which to move either the hollow or solid plungers C<sup>14</sup>, or the pressing plunger with the cross head, once, twice, or more strokes, while the main eccentric makes one revolution, for the purpose of feeding the pressing box with peat dust, substantially the same as described.

Seventh, the perforated or grooved pressing boxes, with tapered holes, gradually enlarged towards the outside, for the purpose as herein set forth.

Eighth, the construction of the pressing boxes A<sup>3</sup> A<sup>3</sup> in such a manner that the same are bolted from the inside or outside to the side of the frames A and A<sup>2</sup>, or to the bed plate, substantially the same as described.

Ninth, the adjusting and regulating of the supply of peat dust, by means of adjusting the blades F<sup>4</sup> F<sup>4</sup>, in combination with the spur wheels F<sup>3</sup> F<sup>3</sup> and lever F, substantially as described.

Tenth, dividing the motion of the main eccentric, with the pressing box or chamber for horizontal or upright action, so that a portion of the motion may be transferred through the medium of two eccentrics or cams on the main shaft, at the outside of the frames, for the purpose of saving power and receiving larger blocks, substantially the same as described.

Eleventh, the combined upright or horizontal action of the eccentric C<sup>1</sup>, without an intermediate connecting link or rod, operating the pressing plungers, substantially the same as herein set forth.

Twelfth, the process of compressing dry pulverized peat under a full or partial vacuum, arranged in such a manner as herein set forth.

Thirteenth, the process of feeding wet pulverized peat, and drying it while passing through the pressing cylinders of the press, through its own pressure, in pressing and drawing the water from it through the medium of an air pump connected with the pipes A<sup>8</sup> A<sup>8</sup>, so that the blocks are perfectly dry when discharged from the press, substantially the same as described.

Fourteenth, connecting an oil vessel with the vacuum chamber of the press, substantially the same as herein described.

Fifteenth, for an upright machine, in placing the main eccentric or eccentrics on the top or bottom, between two frames, with one, two, or more plungers, substantially the same as set forth.

**72,574.**—WILLIAM WEITLING, New York, N. Y.—*Sewing Machine*.—December 24, 1867.—When the needle and thread carrier begin to descend, the hook catches the threads from under the needles, and carries them forward and around the lower part of the thread carrier. When the needle and carrier have reached their lowest point the needle thread closes in a loop around the carrier, holding its thread in the groove, and thus causing the formation of the loop for passage of the shuttle. The needle and thread carrier then ascend to repeat the operation.

*Claim*.—First, the combination of a hook-pointed lever with the thread carrier, piercing needle, and shuttle of a sewing machine, and operating substantially as and for the purposes described.

Second, the application to sewing machines of a thread-winding apparatus, constructed and operated as described.

Third, giving motion to the thread-leading lever of a winding apparatus attached to a sewing machine, by making the rim of the driving wheel eam-shaped to operate said lever, substantially in the manner and for the purposes set forth.

Fourth, in combination with the thread-winding device herein described, the adjustable guide pulley V, for adjusting the tension of the cord r, by which the thread-winding apparatus is operated, substantially in the manner herein described.

**72,575.**—JOSEPH WHITE, Providence, R. I.—*Caster*.—December 24, 1867.—The disk to which the wheel is attached turns in a socket in the lower part of the socket piece, and has bearing on anti-friction balls.

*Claim*.—As a new article of manufacture, a furniture caster, consisting of the grooved plates B C, spindle A, balls a, arms a', wheel w, and nut n, all constructed, arranged, and operating as and for the purpose described.



**72,576.**—**LEMAN WIARD** and **WILLIAM H. NELSON**, Spring township, Pa.—*Churn*.—December 24, 1867.—A lower, rotary dasher is associated with an upper, vertically-reciprocating one; both are operated by the same winch.

*Claim.*—The two dashers D C', constructed and operated as described, when the same are in the aforesaid combination for the purposes set forth.

**72,577.**—**THOMAS WILES**, Indianapolis, Ind.—*Jack*.—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—The combination of the box A with the lever B, fulcrum C, jack D, and cheek E, applied to a lever jack.

**72,578.**—**J. E. WITHERS**, Toronto, Canada West.—*Machine for Making Plug Tobacco*.—December 24, 1867.—The tobacco is pressed between series of rollers, into troughs running on flange rollers. A large wheel rotating in a transverse direction shifts the troughs onto a series of rollers rotating in the opposite direction, by which they are carried back to the starting end. An inclined knife removes the tobacco from the troughs when sufficiently pressed.

*Claim.*—First, the flange rollers E E E, revolving in the same direction, in combination with the rollers G G G, in manner substantially as and for the purposes described.

Second, the inclined knife K, removing the tobacco or other substance from, and in combination with the troughs F, to the platform H, or other place of deposit, substantially as described.

Third, the flange rollers E E E, revolving in the same direction, in combination with the wheel N, revolving in a transverse direction, substantially as and for the purposes described.

Fourth, the flange rollers E E E, revolving in the same direction, in combination with the rollers M M, revolving in a reverse direction, in manner and for the purposes substantially as herein shown and described.

**72,579.**—**HENRY KINNAIRD YORK**, Cardiff, Wales.—*Manufacture of Iron and Steel*.—December 24, 1867.—The cast iron is disintegrated by prismatic bars, whose ends are attached to two rotating disks. The particles descend through the atmosphere to decarbonize the same, and are received in a water tank. The subsequent treatment of the iron is explained by the claim.

*Claim.*—A new mode of decarbonizing cast iron. The making of cast steel by the mixing of particles of cast iron decarbonized with certain proportions of a compound, consisting of iron, carbon, and manganese, such compound being found in white cast iron, known by the name of "*Spiegeleisen*;" or, by the mixing of particles of cast iron, decarbonized, as before described, with the same cast iron not decarbonized, or other cast-iron containing carbon, in the manner hereinbefore set forth.

**72,580.**—**F. C. ADAMS** and **JOSEPH PECKOVER**, Cincinnati, Ohio.—*Coal Stove*.—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the air-heating chamber G G, at the base of the stove surrounding the ash box, but not communicating therewith, with the openings H, for admitting fresh air, as described.

Second, the pipe or chamber A, admitting air, through the fuel, to the cap C, in combination with a concentrating plate D at the top of the fire box, substantially as described.

Third, one or more flues F F F, for conducting air from the base chamber to a point just below the plate D, as shown and described.

Fourth, the adjustable concentrating plate D D', with the sliding doors E E', substantially as described.

Fifth, the chamber formed by plates I and L and conical pots K and M, and forming a descending flue, for the purpose of conducting air downward to the top of the fire basket, substantially as described.

Sixth, the adjustable diaphragm L, in combination with the bottom of the conical pot K, substantially as described.

Seventh, the flue Q, in combination with the plate or diaphragm T, substantially as described.

Eighth, the feeding pipes R R or S, in combination with flue Q, substantially as described.

Ninth, the plate V, with the openings at the front and back, substantially as and for the purpose described.

Tenth, the plate V, with the opening in front only, in combination with square or circular coal stoves, substantially as described.

Eleventh, the plate V, in combination with the regulating dampers Z<sup>1</sup> Z<sup>2</sup>, substantially as and for the purposes described.

**72,581.**—**JOHN WESLEY ALESWORTH**, Santa Cruz, Cal.—*Box for Gauging Shingles*.—December 24, 1867.—The shingles, after rough sorting, are placed in the box side by side and edge up. They are clamped in this position by a screw, and the projecting edges trimmed off. The box is vertically adjustable upon the steps to suit shingles of various widths.

*Claim.*—A gauging box for shingles, constructed with the sides B, with their graduated steps b b' b', together with the movable box D and bar F, substantially as and for the purpose described.

**72,582.**—**JOHN F. ALLEN**, New York, N. Y.—*Hand Saw*.—December 24, 1867.—The blade of the saw is turned to form an inclined kerf at the bottom of the former kerf.

*Claim.*—Turning a portion of the blade of a hand saw to form an angle with the other portion of the blade of said saw, in the manner and for the purpose substantially as described.

**72,583.**—**R. N. ALLEN**, Pittsford, Vt.—*Drying Apparatus*.—December 24, 1867.—The caloric current from a furnace is passed through the rotating cylinder, which is supported on the endless apron and contains a deflecting drum. The paper to be dried is passed between the apron and the cylinder.

*Claim.*—First, the cylinder A, with an annular chamber revolving upon tubular journals so arranged that the said journals and annular chamber shall form an avenue for the passage of waste heat from the flue of the fireplace to the chimney, and at the same time utilize said heat in its transit, substantially as and for the purpose set forth.

Second, the revolving cylinder A, having an interior chamber H and hollow journals B B', in combination with the flue of the boiler and stack, arranged and operating for the purpose substantially as set forth.

Third, the apron L, rollers K, in combination with the cylinder A, arranged to receive the waste heat through one journal and discharge the same through the other into the chimney or stack, substantially as and for the purpose set forth.

**72,584.**—**JOSEPH ANTHONY**, Greenbush, N. Y.—*Car Axle*.—December 24, 1867.—The portion of the axle within the wheel has a greater diameter than the rest, and has an inclined shoulder on the inner side. The object is to strengthen the axle in immediate proximity to the hub.

*Claim.*—An axle with an enlarged boss and shoulder, substantially as and for the purpose herein set forth.

**72,585.**—**E. H. ASHCROFT**, Lynn, Mass.—*Apparatus for Washing Sheep Skins*.—December 24, 1867.—The pelts are placed in the perforated sectoral chambers of the wheel, which is rotated by under-shot buckets attached to its periphery.

*Claim.*—An apparatus for washing sheep skins with the wool on, constructed and operated in the manner substantially as shown and described.

**72,586.**—**EMMET R. AUSTIN**, Norwalk, Conn.—*Flask for Forming Cores*.—December 24, 1867; antedated December 12, 1867.—The wire has an eye at each end. One end of the wire, when running the core, is held in recesses of the flask and the other end is held by the sliding, steady pins. The flask is used in making cores for water-elevator buckets.

*Claim.*—The combination of the hinged flask A and A' with the pipes E E and adjustable steady pins D D, all constructed and arranged substantially as described.

**72,587.**—**WILLIAM BAHME**, New Media, Pa.—*Millstone*.—December 24, 1867.—The bosom of the under millstone is recessed by a stone upon a vertical



rotating shaft which may turn upon or with the spindle. The same stone is used to recess the runner when it is inverted, its shaft being in this case stepped in the cock eye.

*Claim.*—First, the stone H, adapted and employed to sink or grind out the central portion of millstones, substantially as and for the purposes set forth.

Second, the shaft G and driving apparatus D E F, in the described combination with the stone H, for the purpose specified.

Third, the upright shaft I, constructed as described, in combination with the spindle C and stone H, substantially as and for the purpose specified.

**72,588.**—HENRY B. BARBER, Scott, N. Y.—*Churn.*—December 24, 1867; antedated December 13, 1867.—The reciprocating dashers are hung to the opposite ends of a lever pivoted at the middle and having a pendent arm swayed by a rotary inclined disk.

*Claim.*—The arrangement of the dasher shafts C and their arms, with the oscillating lever F, arm J, shaft H with its inclined wheel I, and the bevel wheels a and K, substantially as and for the purpose set forth.

**72,589.**—HENRY BEEBE, Hudson, N. J.—*Lantern.*—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the metallic top E\*, furnished with openings b', and lined with reticulated material c, in combination with the glass body C, substantially as and for the purpose specified.

Second, the base D of the body C, constructed with the annular shield E and openings a', in combination with the reticulated top plate b and the openings a of the sides of the burner, substantially as and for the purpose specified.

Third, the combination of the metallic perforated top E\*, furnished with a reticulated lining c, the glass body C, and the base D, formed with openings a', and furnished with the annular shield E, substantially as and for the purpose specified.

**72,590.**—DANA BLACKFORD, Boston, Mass.—*Material for Pump Pistons, Engines, &c.*—December 24, 1867; antedated December 14, 1867.—Tubing or other articles of rubber are strengthened by wire, cloth, or metallic strips, in such a manner as to retain the flexibility.

*Claim.*—Manufacturing of these different articles in the various ways described and set forth; also, the strengthening in the ways and for the different purposes described.

**72,591.**—JOSEPH E. BINI, Mount Vernon, N. Y., assignor to JAMES E. JOUETT and CHARLES H. CUSHMAN.—*Bracing the Sounding Boards of Guitars.*—December 24, 1867.—Explained by the claim and illustration.

*Claim.*—The braces of the sound board of a guitar, arranged, constructed, and connected substantially as described and for the purpose specified.

**72,592.**—W. E. BIRD, West Bridgewater, Mass.—*Washing Machine.*—December 24, 1867.—The device is clamped to the side of a tub and has a perforated plunger operated by a lever whose inclination is adjustable.

*Claim.*—First, the combination of the clamps B, the joint D, and lever H, substantially as described and for the purpose set forth.

Second, the adjustable shield M, in combination with the handle R and lever H, substantially as described and for the purpose set forth.

**72,593.**—IRA BISBEE, Richmond, Mo.—*Balance.*—December 24, 1867.—The disk has a central axis and is weighted at one part of the edge. Its upper part has scales of the various weights in common use; a finger on the standard showing the inclination of the disk caused by an object placed on either of the scales, which are hung upon its sides.

*Claim.*—First, a scale, consisting of the eccentric disk C, having graduations on both sides, registering with each other, the equipoise E firmly secured thereto, and the suspended basins or plates D, substantially as represented and described.

Second, the disk C, having graduations on both sides, registering with each other, whereby they can

be viewed simultaneously, as represented and described.

Third, a scale having the following characteristics, viz: graduations for troy, apothecaries', and avoirdupois weights, for letters, and for American and foreign coins, substantially as represented and described.

**72,594.**—T. B. BISHOP, Baltimore, Md.—*Horse-shoe.*—December 24, 1867.—The shoe is attached to the foot by front and quarter pieces of leather with connecting straps.

*Claim.*—The fastening of the leather, cut in suitable manner C D, between the two shoes A B by means of rivets, and the fastening of the shoe thus made on to the horse's hoof by means of the straps b b' and c c, substantially in the manner and for the purpose set forth.

**72,595.**—MORRIS BOTTICHER, Newark, N. J.—*Steam Gauge.*—December 24, 1867.—The mercury is inserted into the chamber above the diaphragm through a vertical passage, in which a screw works to stop the opening and limit the space within the chamber.

*Claim.*—The arrangement of the adjustable screw J with cap F of the gauge, substantially as herein described.

**72,596.**—T. E. C. BRINLEY, Louisville, Ky.—*Manufacture of Plow Handles.*—December 24, 1867.—The pins govern the position of the handles while boring the holes for the brace rods.

*Claim.*—The mode of manufacturing the handles of plows of different lengths and irregular curvature by the use of a table A, gauge block C, and pins D, so as to secure the proper alignment of the brace holes, substantially as set forth.

**72,597.**—CHARLES B. BRISTOL, New Haven, Conn.—*Attaching Door Knobs to Spindles.*—December 24, 1867.—The inclined notch is for the reception of the end of the screw and becomes shallower toward the end. It affords means of adjustment to doors of different thicknesses.

*Claim.*—The use of the inclined plane c, when formed on the corner of the spindle E, in combination with the binding screw b and the neck C of the knob A, and the whole is constructed and made to secure the knob A in its desired position without making holes in or putting washers on the spindle, substantially as herein described and set forth.

**72,598.**—JOSEPH E. BROOKS, Gooding's Grove, Ill.—*Cultivator.*—December 24, 1867; antedated December 19, 1867.—The standards are attached to a frame, the sides of which are connected by a bow extending upward above the corn tops when at a certain elevation. This plow frame is adjustably connected to the main frame and is moved laterally by treadles.

*Claim.*—First, the arrangement of rods U with the frame of the machine and the plow beams E E, substantially in the manner and for the purposes set forth.

Second, the arrangement of the draught cord b, sheaves a a, and pivoted hangers C C, so as to operate substantially as and for the purposes described.

Third, the combination and arrangement of the plow beams E, rods d e, lever L, cord K, rod J, and lever I, substantially as and for the purposes specified.

Fourth, the combination of the suspended plow beams E, rods U, and levers W, arranged and operating as and for the purpose shown and set forth.

Fifth, the peculiar arrangement of and mode of attaching the bow V to the rear part of the plow beams, herein shown and specified.

**72,599.**—ROBERT D. BROWN, Covington, Ind.—*Harvester Rake.*—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the toggle-frame pulley and guide rod upon the end of the main axle, for keeping the driving and reel pulleys in line, when the reel post is arranged upon the drag bar, and remote from and in a different plane from that of the axle, and thus preventing the belt from being thrown off, or from slipping or binding, while the platform and driving wheels accommodate themselves to the



inequalities of the ground over which they are passing, as described.

Second, in combination with a rake, moving on the rod *n* by the endless belt *z*, the projection rearward of said rake, as shown at 7, and the slots 4, 10, and shoulder 13, for the purpose of guiding, holding, and turning the rake, by means of the ways herein described and represented.

Third, in combination with the projection on the rake plate or hinge and its shoulder 13, the spring-way or guide 14 for holding up, guiding, and controlling the rake just before its projection takes the straight groove or way 15, and until the button on the belt moves around to cause it to return for the next gavel, substantially as described.

**72,600.**—PATRICK BURKE, Philadelphia, Pa.—*Bolt for Shutters.*—December 24, 1867.—Each of the separating plates has a bolt and socket, and one of them a central bolt entering between two bolts in the other, which are connected by a plate forming a socket.

*Claim.*—A bolt, having its two separating parts A A' provided with the slides B B', and the sockets C C', constructed and arranged to operate together, substantially as set forth and described, for the purpose specified.

**72,601.**—RUFINA NÖGGERATH, Paris, France.—*Coating and Metallizing Fabrics.*—December 24, 1867.—Crochet nets, baskets, and other articles may be metallized by any process that will cause proper adhesion. The fabric is dipped into a solution of silicate of potash, glue, rosin, or other matter to harden it. After this, the article is placed on a mold, which should be coated with fatty matter. The whole surface is then coated with shellac; this varnish may contain coloring matter when the metallizing process is not carried out, or the coated articles may be galvanized.

*Claim.*—First, the new process, as described, of hardening, ornamenting, metallizing, or galvanizing fabrics and other materials, so as to produce, by the various operations herein described and especially claimed, articles having the appearance, or being really completely transformed into open-work metal.

Second, the same articles, which may be only diversified in colors and left unmetallized, as being especially applicable to various purposes, such as articles of dress, furniture; to hangings, tapestry; to artistic objects, &c.

Third, ornamenting, metallizing papers, plaster, and other articles, by the same processes as described.

**72,602.**—EDWIN CHAMBERLIN, Lansingburg, N. Y.—*Carriage Seat.*—December 24, 1867.—Explained by the claim and illustration.

*Claim.*—Securing an extra bottom C, with all the top irons attached thereto, to the seat bottom B, by means of the double or single bars *e e'* furnished with the keys *k k*, or their equivalents, and operated either from the upper or lower side of the seat, and working into the hook catches *a a*, or their equivalents, which hook catches are permanently attached to either the extra bottom C or the bottom B, and the whole in combination, substantially as and for the purpose set forth and described.

**72,603.**—PASCAL P. CHILD, St. Louis, Mo., assignor to S. R. FOX MANUFACTURING COMPANY, same place.—*Hinge for Window Shutters.*—December 24, 1867.—Improvement on patent of Tull & Porter, January 31, 1854. An eccentric flange surrounds the central spindle. A projecting lip on the other part of the hinge overlaps the eccentric flange and prevents the shutter being removed except when in a certain position.

*Claim.*—The lip A' upon either half of the hinge A B, projecting over or under the flange *b'*, as the case may be, in such manner as to come in contact with and act as a stop for the flange *b'* when the blind is inadvertently raised, as shown and described.

**72,604.**—JAMES COLE, Brooklyn, N. Y.—*Breast Pump.*—December 24, 1867.—The suction nipple is of rigid material, and has side discharge into the flexible pipe communicating with the elastic bulb. The latter has induction and eduction valves.

*Claim.*—A breast pump, constructed substantially as described.

**72,605.**—HOMER COOK and CHARLES E. SIMMONS, Waukegan, Ill.—*Bed Bottom.*—December 24, 1867.—The longitudinal bars are connected by toggle bars at each end to the upper and lower frame to cause a like depression of each side.

*Claim.*—The combination of the short bars C C C C with the horizontal bar D, for the purpose of equalizing the pressure upon the upper frame, so that all parts of it shall settle alike.

Also, the application of two sets of these bars to the same end or side of the bed bottom, to stay the upper frame and prevent all swaying, all constructed, combined, and applied substantially as and for the purposes described.

**72,606.**—F. W. CORCUTT, New York, N. Y.—*Labeling Bottle Corks.*—December 24, 1867.—A detachable sheet-metal disk is held upon the top of the cork by the pivoted wire clamp. The disk acts as a label and prevents the wire from cutting into the cork.

*Claim.*—The combination of the metallic label *c* with the holding clamp B, bottle A, and cork C, substantially as and for the purpose specified.

**72,607.**—GUSTAVUS CUPPERS, New York, N. Y.—*Automatically-Operating Sewing Machine.*—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the method, herein described, of operating sewing machines and other machinery automatically by means of a spring or springs, composed of one or more bands or belts of vulcanized rubber, combined with the driving shaft of the mechanism for operating said machinery, substantially in such manner that the contractile power of said rubber spring or springs, when stretched and wound upon the driving shaft, shall cause the rotation of said shaft, as and for the purposes set forth.

Second, the combination with the main or driving shaft A of the rubber-spring band or belt and spirally-grooved conical barrel, upon which said band is wound, substantially as and for the purposes set forth.

Third, the combination with the main shaft and the ratchet wheel *s'* of the barrel G' and pawl for engaging with said ratchet, under the arrangement and for operation as set forth.

Fourth, the combination of the lever E and the spring pawl which it carries with the ratchet wheel *b* and stop or projections formed in rear of said wheel, substantially in the manner and for the purposes set forth.

Fifth, the combination of the driving shaft and its conical barrel with the lever, pawl, and ratchet wheel and gearing for effecting the revolution of said shaft, under the arrangement and for operation as set forth.

Sixth, the combination of the rubber band, applied to its conical barrel as described, of the pulleys or wheels upon which said band is stretched, mounted on the frame of the machine, substantially as and for the purposes set forth.

Seventh, the combination with the driving shaft, revolved by means of a rubber-spring band or belt, as described, of the shaft F and gearing, through the medium of which the said shaft is caused to rotate, arranged and operating as herein specified.

Eighth, the combination with the wheel for actuating the sewing or other machine of the friction brake, constructed and applied to said wheel in the manner as set forth.

**72,608.**—CALEB M. CURREY, Pontiac, Mich.—*Mechanical Movement.*—December 24, 1867.—Vertical or horizontal reciprocating motion is communicated from cranks on the driving shaft; the former through a walking beam and pitman, and the latter directly to the saw, to which it communicates an oscillatory motion.

*Claim.*—The combination and arrangement of the crank shaft B, lever F, and connecting rod G with their described accessories C D E, as and for the purpose set forth.

**72,609.**—JOSEPH CURRIER, Portland, Me.—*Blind Catch.*—December 24, 1867.—A movable catch plate is attached to the bottom of the shutter. The catches are drawn up by a spiral spring to engage



staples in the wall or window sill, and are freed by the lever.

*Claim.*—The combination of the lever *k*, connected with the stud 2, as described and employed, as and for the purposes set forth.

**72,610.**—ALFRED DART, Carbondale, Pa.—*Coal Stove.*—December 24, 1867.—The grate at the bottom of the fire-pot has a central cone with upward radial ribs. The caloric current passes up a central and a series of side tubes to a chamber above, with which the exit flue communicates. The air passes through an outer perforated case and circulates around the heated metal.

*Claim.*—The central cone *I*, when provided with the wings *i i*, and attached to the grate, substantially as and for the purpose specified.

**72,611.**—JOSEPH DAVENPORT, Massillon, Ohio.—*Bridge Girder.*—December 24, 1867.—The arch is formed of upper and lower concentric iron arcs connected by diagonal and radial braces. The cord is connected to the arch by radial rods. The ends of the arch and chord are secured in the metallic shoe.

*Claim.*—First, the arch, composed of the string pieces *A* and *B*, shoes *h h*, tension bolts *a a*, main braces *c c*, and counter braces *d d*, the several parts being arranged in the manner and for the purpose herein specified.

Second, the hollow cylindrical tubes for braces in the construction of a truss, when said braces are so arranged as to take only a compressive strain, and cannot be subjected to a tensile strain, substantially as herein shown.

Third, the peculiar arrangement and combination of the arch shoes *E*, chord *C*, lower string piece *B*, angle iron *F*, bolts *m* and *f*, upper string piece *A*, and bolts *e*, the whole being arranged as shown and for the purpose specified.

**72,612.**—JOHN DAVIS, Allegheny City, Pa.—*Planetarium.*—December 24, 1867.—The tubular supporting arms of the planets are attached to separate sleeves upon a central standard supporting the sun, and the arms enclose the shafts by which rotary motion is communicated to the primary and revolution to the secondary planets. The rotary motion is communicated to the shafts by wheels upon sleeves separate from those attached to their supporting arms.

*Claim.*—First, representing the axial motion of the planets and the orbital motions of the satellites by imparting motion to gearing placed on the outer ends of arms radiating from a series of concentric shafts, said gearing consisting of wheels 1 and 2 and a series of concentric disks 1 2 3 and 4, rotated by a single pinion 3, constructed and arranged substantially as described.

Second, pivoting the earth *E* at one pole, so that by its own weight or gravity its axis will be constantly inclined at the desired angle to the plane of its orbit, substantially as herein described and for the purpose set forth.

**72,613.**—JOHN DEANE, Conneaut, Ohio.—*Process of Fumigation for Destroying Insects on Hop Vines and Other Plants.*—December 24, 1867.—Composed of tobacco leaves, sulphur, hellebore, coal tar, and a small quantity of phosphorus.

*Claim.*—The mode of destroying insects by fumigation with the smoke evolved by burning a mixture compounded substantially as set forth, in proximity to hop or grape vines.

**72,614.**—WILLIAM J. DODGE, Syracuse, N. Y., assignor to himself, JAMES L. HUMPHREY, and DANIEL D. SMITH, same place.—*Paint.*—December 24, 1867; antedated December 4, 1867.—Composed of raw linseed oil, 5 gallons; melted rosin, 15 gallons; spermaceti, 1 pound; caoutchouc dissolved in oil, 2 ounces; litharge, 3 pounds; sngar of lead, 2 ounces; gum copal, 1 pound, and turpentine, 2 gallons.

*Claim.*—The improved paint, prepared or compounded substantially as herein specified and for the purpose set forth.

**72,615.**—LABEN EDDY, Taunton, Mass.—*Weighing Scale.*—December 24, 1867; antedated December 20, 1867.—The scale is attached to the top of a standard, supported on knife edges situated on one side of

the axis of the diametric rocking lever. The lever has a rigid vertical pin at its midlength, on which turn two weight arms having index fingers to denote their inclination in respect to the lever, and consequent purchase on it. The scale standard is connected by a horizontal rod to the frame to prevent tilting.

*Claim.*—First, the combination as well as the arrangement of one or two weighted arms *F G* and a curved arch or limb *B* with the diametric lever *C* and the scale pan *E*, or its equivalent, supported thereon, substantially as set forth, and this, whether the limb be affixed to the diametric lever or to the stand thereof, as explained.

Second, the combination and arrangement of the twine holder *L* with the stand or case *A*, and the weighing mechanism thereof, as specified.

**72,616.**—MOSES G. FARMER, Salem, Mass.—*Lighting and Extinguishing Gas.*—December 24, 1867.—The lamps are lighted from a central office, but the lighting spark is generated by the apparatus directly connected with the burner.

*Claim.*—The combination of a straight electro-magnetic bar, with its pole situated between the poles of two bent or U-shaped permanent magnets, which permanent magnets may be either simple or compound.

Also, for use in combination with the gas burner of a street gas lamp, a box or gas chamber, containing an electric spark-generating mechanism, and mechanism, as described, for opening with the current in one direction, and closing with the current in the opposite direction, a valve, said box containing gas, and being arranged to be located at or near to the burner, and in a circuit, substantially as set forth.

Also, giving motion to gas valves, or other mechanism, by means of the above described combination of electro and permanent magnets, whether the arrangement be such that the permanent magnets or the electro-magnetic bar be moved by the reversal of the current.

Also, the arrangement of the burner, the igniting points or wires, the gas valve, the primary and secondary coils, and the electro and permanent magnets, substantially as shown and described.

**72,617.**—W. B. FINCH, Chicago, Ill., assignor to himself, THOMAS S. FERGUSON, and N. B. BOYDEN.—*Varnish Paint.*—December 24, 1867.—Explained by the claim.

*Claim.*—A paint, composed of india-rubber, linseed oil, rosin, gum shellac, and benzole.

**72,618.**—BENJAMIN FITTS, Newark, N. J.—*Planing Machine.*—December 24, 1867.—Motion is communicated to the upper feed roll by a pinion engaging a spur wheel on one of the lower rolls, and gearing with the inside gear of a disk wheel attached to the shaft of the upper feed roll. The said pinion engages the inside gear at about midheight to permit vertical movement of the roller.

*Claim.*—The arms *s* and *i*, when constructed to support the gear wheel *h*, and arranged to operate with the wheels *e* and *f*, substantially in the manner and for the purposes described.

**72,619.**—BENJAMIN FITTS, Newark, N. J.—*Planing Machine.*—December 24, 1867.—The central matching cutters admit of being moved by their adjusting screws into side recesses, to allow the use of the machine as a surface planer for broad boards.

*Claim.*—Forming recesses *E E* in frame *a*, and extending the line *h* far enough, and for the purpose of transferring the vertical cylinders *e* and *f* beyond lines drawn from the ends of cylinder *c* perpendicular to its axis, substantially as shown and described.

**72,620.**—G. R. FORSYTH, Pemberton, Ohio.—*Pump.*—December 24, 1867.—The bellows is attached to the pump stock, and operated by the pump handle. Its nozzle extends nearly to the water.

*Claim.*—The combination of the bellows with the pump, substantially as and for the purpose set forth.

**72,621.**—LEWIS FRANCIS, New York, N. Y., assignor to W. O. HICKOK, Harrisburg, Pa.—*Ink for Paper Ruling.*—December 24, 1867.—Aniline, 1 oz., is dissolved in hot acetic acid, 12 oz.; to this is added water, 4½ galls.



*Claim.*—Making machine ruling ink, substantially as herein described.

**72,622.**—J. T. FRANKENBERGER, Hensly, Ill.—*Cultivator*.—December 24, 1867.—The draw beams are hinged to the axle. The upper ends of the central standards are connected by a cross-rod, and this bar is connected by a brace-rod to the axle. The beams may be swaged, and are moved toward or away from each other by the handles.

*Claim.*—First, the combination of the beams G G, when hinged at their front ends to the bar A, substantially in the manner set forth.

Second, the beams G G, when combined with the standards H, the handles R, and bars F and A, the whole constructed and operating substantially as herein described.

**72,623.**—J. T. FRANKENBERGER, Hensly, Ill.—*Harrow*.—December 24, 1867.—The main harrow has teeth on its side bars but not near to the point. The supplementary harrow has handles and may be moved thereby in working planted crops.

*Claim.*—The harrow A, the supplemental harrow D and the handle j, the whole combined and operating substantially as herein specified.

**72,624.**—C. R. FRINK, Norwich, N. Y.—*Hay Spreader*.—December 24, 1867.—Improvement on his patents May 8, 1866, and October 23, 1866. The driving wheel rim fits around the friction wheels, which are connected with the spokes, and, when fitted together, make three bearings for the rim to turn on, the shaft being near the end of the spoke. When the latter is revolved a backward and forward motion is given to the forks which are attached to the cross-head by screws. The forks have coiled springs, and may be adjusted vertically by loosening their attaching screws.

*Claim.*—First, the driving-wheel rim A, the friction wheels B B B, in connection with the spokes C C C, when applied to and for the purpose described.

Second, the coiled fork tines A, cross-head b, set screws e e, in connection with rods D D, substantially as and for the purposes set forth.

**72,625.**—JEAN MICHEL FUCHS, New York, N. Y.—*Process for Manufacturing Albumen*.—December 24, 1867.—The blood is passed through a sieve into a pan, and aided by cutting and working the coagulated mass; it is then allowed to stand 24 hours and the liquid part passed to a second pan. After again standing 24 hours it is drained into a third, and from that to a glass vessel, in which it is kept at a temperature of 65° Reaumur for 24 hours, and then allowed to cool to 30° Reaumur for 24 hours longer, when it may be bottled for use.

*Claim.*—The process, substantially as herein described, of manufacturing or extracting albumen from blood.

**72,626.**—WILLARD M. FULLER, Chicago, Ill.—*Amalgamator for Ores of Gold and Silver*.—December 24, 1867.—The pulverized quartz, mingled with water, is placed in the hopper and discharged into the amalgamating chamber. The vertical rotary shaft passes through a stuffing box at the top of the amalgamating chamber, and has within the chamber a series of conical disks fixed in pairs mouth to mouth. The upper disk of each pair is larger and is perforated near the shaft. The current is formed by the weight of matter in the hopper, and the siphon communicating with the top of the amalgamating chamber. The siphon has a stop cock at its foot and a supply funnel at its bend, the funnel pipe having a cock.

*Claim.*—First, the application of a siphon to an amalgamator for producing a continuous current through the mercury, substantially as specified.

Second, the siphon or pipe D, in combination with the cylinder A, substantially as and for the purposes specified.

Third, the shaft E, in combination with two or more plates, F and G, substantially as specified.

Fourth, the combination and arrangement of the shaft E, collar H, cone G', and mouth O or end of pipe C, substantially as described.

Fifth, the pipe L, when attached to the pipe D, substantially as and for the purposes described.

Sixth, the tub B, pipe C, and cylinder A, in combination with the pipe D, substantially as specified.

**72,627.**—FRANKLIN B. GAGE, St. Johnsbury, Vt.—*Photographic Camera*.—December 24, 1867.—Movable and adjustable cut-off shutters are arranged within the camera for use in vignetting positive and negative photographic pictures.

*Claim.*—In combination with a camera either one or two shutters or cut-offs, made movable or adjustable up and down therein, substantially as and for the purpose or purposes as specified.

Also, the construction of each of the cut-offs, viz: so as to be capable of being either contracted or expanded in length, substantially as specified.

Also, the combination and arrangement of the indicator and divided limb, or the equivalents thereof, with the camera and each of the cut-offs, as set forth.

Also, the combination of the friction apparatus, or its equivalent, with the camera and each cut-off, or with the same and the indicator and its limb, or their equivalents.

**72,628.**—ALFRED C. GARRATT, Boston, Mass.—*Voltaic Pile*.—December 24, 1867.—Alternate, rectangular plates of zinc and copper are soldered together at their edges, but a smaller space left between them to allow of cleansing. A series of such pairs are secured in an insulating frame, space being left between the pairs for passage of a strip of moistened fabric.

*Claim.*—The improved voltaic pile or battery, composed of the two different metals, in the form of bars, arranged with a strip of cloth between each two pairs of them, and with a space between the bars of each pair, such bars being connected at their ends, as set forth, the whole being held in place by a frame, substantially as described.

Also, in a battery of such kind, the arrangement and combination of metallic pins or tacks n, and solder s, with the two zinc and brass or copper bars b z, the whole being as specified.

**72,629.**—JOHN H. GLEIM, St. Louis, Mo.—*Book for Bookkeeping*.—December 24, 1867.—Alternate cash books are used for alternate days, one of them having the folios paged with the odd, and the other with the even numbers. The object is to allow the posting of the transactions of the preceding day during business hours.

*Claim.*—First, the combination of the alternate cash journals 1 and 2, paged respectively with odd and even numbers, substantially as and for the purposes set forth.

Second, the combination of the balance column 6 with columns 1 2 and 3, substantially as and for the purposes set forth.

Third, the combination and arrangement of columns 7 and 8 with columns 1 and 6, substantially as and for the purpose set forth.

Fourth, the combination and arrangement of the ledger column 9 with columns 1 and 3, substantially as and for the purposes set forth.

**72,630.**—JOSEPH GOTTLIEB, Boston, Mass.—*Tassel Clamp for Window Curtains*.—December 24, 1867.—The tassel cord is attached to the blind by the clamp, whose jaws are drawn inward by a bent rod and nut.

*Claim.*—The clasp, made as described, viz: with the clamp wire bent and arranged and combined with the two jaws, in manner as explained.

**72,631.**—JOHN G. HADFIELD, Cincinnati, Ohio.—*Medical Vacuum Apparatus*.—December 24, 1867.—The opening is in the rear and is secured by a series of screws. The seat is on an arm turning on a vertical post which allows the seat to be swung out at the rear. The forked end of the brace seat engages a ratchet on the supporting bar to allow vertical adjustment. The ratchet consists of a series of inverted truncated cones, allowing the swinging movement of the arm. The limb exhaustor has a hand bar consisting of two cylindrical sections sliding together. The sections are forced asunder by a spiral spring, and have end pins engaging in any pair of a series of holes in the side of the inner case of the exhaustor.

*Claim.*—First, a medical vacuum chamber A, having the elevated neck I, with face opening i, and an



open rear, closed by a door C, and fastening devices, substantially as set forth.

Second, the chair L, capable of being swung out or into the case, in the manner and for the purpose set forth.

Third, such a chair, when adjustable in height upon its axis, substantially as set forth.

Fourth, in combination with the elements of claim first, the parts D E F F' G G' H H', or their equivalents, by which the door is made to bear with an equal and air-tight pressure at every part.

Fifth, in the described combination, the adjustable foot rest N and notched post P, as set forth.

Sixth, in this connection, the arrangement of the manifold S, two or more faucets T T', and coupling neck S', provided with an outwardly-opening valve s, as and for the purpose set forth.

Seventh, the limb receptacles U u, when combined with the adjustable hand rest X X' x Y.

**72,632.**—D. FRANK HARTFORD, Boston, Mass.—*Stringing Bow Drill Stocks*.—December 24, 1867.—Each of the four cords has a separate groove to avoid the wear of one against the other.

*Claim.*—Combining and arranging the four strings H H' H'' H''' with the pulleys A B, when said pulleys work substantially as described and for the purpose set forth.

**72,633.**—HAYWARD A. HARVEY, Orange, N. J.—*Wood Screw*.—December 24, 1867.—The thread is deeper at the side towards the point, so that the core, in the interval between the threads, presents an inclined surface to the wood and assists in resisting the retraction of the screw.

*Claim.*—A screw, constructed in the ordinary manner, with the exception that the thread is cut deeper on the under side than on the upper, substantially as and for the purpose set forth.

**72,634.**—LEVI HEYWOOD, Gardner, Mass., assignor to HEYWOOD BROTHERS & COMPANY, same place.—*Wooden Chair Seat*.—December 24, 1867.—Explained by the claim.

*Claim.*—A wooden chair-seat, provided with a strip a, whose grain crosses that of the seat itself, substantially as and for the purpose set forth.

**72,635.**—LEVI HEYWOOD, Gardner, Mass., assignor to HEYWOOD BROTHERS & COMPANY, same place.—*Socket for Revolving Chair*.—December 24, 1867.—Explained by the claim and illustration.

*Claim.*—The within described socket B, for receiving the upper ends of the legs of chairs, substantially as set forth.

**72,636.**—WILLIAM C. HICKS, New York, N. Y.—*Apparatus for Grinding and Polishing Cylindrical Concave Surfaces*.—December 24, 1867.—The cylinder is secured to the slide rest and the grinding disks are upon a shaft, receiving revolution from the lathe heads, and rotation from a pinion on the shaft engaging a fixed inside gear.

*Claim.*—The method of finishing up concave surfaces, substantially as hereinbefore described, that is to say, by means of rotatory tools running in contact with the surface being operated upon, while the said tools and surface are moved (by any suitable mechanism) relatively to each other, in the manner set forth.

**72,637.**—EDWARD J. HILL, Milwaukee, Wis.—*Manufacture of Matches*.—December 24, 1867; antedated December 10, 1867.—The matches are made in strips, plates, or strings, and divided after dipping and varnishing.

*Claim.*—First, the discovery of the quality or property of the mass or paste usually employed to produce ignition in matches, tapers, lamp, cigar, or gas lighters, which permits the same to be cut without friction or percussion, especially when spread in thin sheets of suitable material, after the same has become dry.

Second, the use of twine or yarn or thread, or equivalents, in the manufacture of friction or percussion matches.

Third, the peculiar manner of placing the twine, yarn, or thread for dipping, as herein described.

Fourth, the particular combinations to produce the results respectively herein described, or in any other

substantially the same, as shown by each of the specimens accompanying this specification.

Fifth, the putting up and packing matches, tapers, and lighters, in friction wrappers, cases, or holders, or otherwise, so as to unite the match, taper, or lighter with the case or wrapper, making the same go hand in hand with each other, in the various combinations herewith presented, and all permutations thereof.

Sixth, the application of varnish after dipping, as herein described, or otherwise.

Seventh, paper for matches, as herein specified, in the combinations set forth.

Eighth, the protection of the pasted ends of the matches, tapers, or lighters, in manner and form, by folded paper or other suitable material, as in this application described.

**72,638.**—CHARLES M. HODGES, Mansfield, Mass., assignor to himself, WILLIAM O. CAPRON, and NATHANIEL WHITMORE.—*Scythe*.—December 24, 1867; antedated June 10, 1867.—The heel is upon the back piece, which enters a recess between the blade and cap piece. The two latter are soldered together and may be removed from the back after extraction of the attaching serews.

*Claim.*—The combination as well as the arrangement of the back piece C with the blade A and the cap piece B, arranged and applied with respect to each other as set forth.

**72,639.**—CALVIN J. HOLMAN, Chicago, Ill.—*Machine for Sawing Barrel Headings*.—December 24, 1867.—A saw and planing cylinder are combined with a reciprocating bed in such a manner that the stuff may be sawed from the block and planed out at the same time. The carriage is adjusted to form one edge of the heading thinner than the other.

*Claim.*—First, the combination of the adjustable bed F, planing cylinder G, and saw S, constructed and arranged to operate substantially as and for the purposes specified.

Second, the combination of the bed F, planing cylinder G, carriage C, and saw S, constructed and arranged to operate in the manner and for the purposes set forth.

**72,640.**—WILLIAM E. HOPKINS, Parkman, Ohio.—*Stave Machine*.—December 24, 1867.—The band saw works upon pulleys in connection with adjustable feed tables, so as to render the saw available for sawing staves for vessels of varying diameters, and also for the sawing of flat objects, such as shingles and headings.

*Claim.*—The adjustable feed or saw table, for regulating the degree of curvature of the staves to conform to the diameter of the cask or vessel for which they are to be used, in combination with the narrow endless belt saw, arranged and operating as described.

**72,641.**—EDWIN B. HORN, Boston, Mass.—*Stem Winding Watches*.—December 24, 1867.—The main spring is placed within a ring gear recessed into the face plate, and made to wind the watch by a small pinion attached to the winding stem. A safety recoil arrangement is combined with the aforesaid. The stem can be put in connection with the hand-setting pinion when desired.

*Claim.*—First, attaching to and placing within the ring gear B the main spring of a watch, said ring gear being recessed into the face plate, and being made to wind up the main spring by means of a small pinion attached to a winding stem.

Second, the ratchet wheel E and pawl F, in combination with the ring gear B, when the said ring gear is used for winding up the main spring, the whole being made substantially as described and for the purpose set forth.

Third, the combination and arrangement of the levers L L' L'', the pinions P' P'', and the ring gear B, substantially as described and for the purpose set forth.

**72,642.**—OTIS W. HORN, Chicopee, Mass.—*Lap Seam Guide for Sewing Machines*.—December 24, 1867.—The guide is attached to the cloth table of the sewing machine by a thumb-screw passing upward through the table and engaging the guide plate. Each one of two pieces of cloth is passed between



a pair of the match plates, and the edges of the cloth are lapped by the inclined ridges and grooves before reaching the needle. The guide pins regulate the lap.

**Claim.**—A lap seam guide for sewing machines, composed of two pairs of guiding plates, said plates being arranged with reference to each other, and also ridged, grooved, and provided with stops *i* and *o* and the ear piece *v*, all constructed and operating substantially as and in the manner herein set forth.

**72,643.**—H. GENGEMBRE HUBERT, New York, N. Y.—*Gas Regulator*.—December 24, 1867.—The gas presses against the loaded diaphragm and raises the valve lever connected thereto, to regulate the supply of gas.

**Claim.**—First, the use of a metallie diaphragm.

Second, the combination of the diaphragm *G*, link *E*, lever *L*, and valve *V*, arranged substantially in the manner set forth.

Third, making the fulcrum of the lever *L* adjustable from outside the instrument by means of a screw *D*, arranged as described, or any mode substantially the same.

Fourth, the use of a lever for multiplying the sensitiveness of a gas regulator by increasing the throw of the valve thereof.

**72,644.**—WILLIAM B. JOHNS, Cumberland, Md.—*Harvester Rake*.—December 24, 1867.—The cutter is operated by an oscillating lever, which is actuated by connection with a crank wrist on a pinion rotated by connection with the main bevel wheel on the axle. The said bevel wheel also turns the rake. The machine is driven before the team.

**Claim.**—First, the bevel gear *E*, centrally placed on the main axle, and when used directly for driving the cutters and the rake both, substantially as described.

Second, in combination with the cutters and reel for laying the grain upon the platform or grain table, a rake, revolving at right angles to the forward movement of the machine, for raking off and delivering the grain in gavels at the side of the machine, as set forth and described.

**72,645.**—JOHN ADAM KINKELE, Sacramento City, Cal.—*Revolving Oven*.—December 24, 1867.—Explained by the claims and illustration.

**Claim.**—First, the oven, constructed as described, consisting of the inner wall *B*, placed between the outer case *A'*, having cold-air openings *a*, and the oven *C*, all supported by an annular plate upon the foundation *A*, the hot and cold annular air chambers *H H'*, communicating with the common flue *J'*, the revolving hearth *E* of the oven, supported upon the plate *E'* by a pivot, and operated by means of the gear wheel *L*, as herein described, for the purpose specified.

Second, the rotary hearth *E*, when constructed of tile or fire brick, in combination with the oven *C*, concentric wall *B*, and casing *A'*, as herein described, for the purpose specified.

**72,646.**—GEORGE KUHLMANN, New York, N. Y.—*Table*.—December 24, 1867; antedated December 12, 1867.—The table has three leaves in a vertical series. The lower and upper one are vertically adjustable, being balanced against each other by connection to the opposite ends of cords passing over sheaves. They are secured at desired heights by bolts.

**Claim.**—The application to tables of the arrangement of the cords *g g*, &c., pulleys *h h*, &c., and spring catches, shown by Fig. 4, all used for extending vertically, and supporting, when extended, the leaves *f* and *k*, as hereinbefore described.

**72,647.**—JAMES LEE, JR., Charlestown, Mass.—*Cloth Washing, Rinsing and Squeezing Machine*.—December 24, 1867.—The fabric to be dyed or washed is passed around the roller in the tank, and above the lower roller in the frame sufficiently, and then dried between the upper rollers. One end of the top roller is made of metal, and acts instead of a spring.

**Claim.**—First, the combination of the rollers *E* and *B*, the rack *D*, rollers *F F*, the tub or tank *A*, with the heavy roller *G*, all arranged and operating as and for the purpose specified.

Second, the combination of the rollers *E* and *F*

with the heavy roller *G*, all arranged and operating substantially as described.

**72,648.**—DIXON LEWERS, Louisville, Ky., assignor to FERGUSON & LEWERS, same place.—*Stave Machine*.—December 24, 1867.—The pusher consists of a sliding frame, which is reciprocated by a pitman connected to a radially adjustable wrist on a rotating bell crank, whose other arm has a slot traversed by a pin on the driving wheel. The driving wheel and rotating crank shaft are journaled eccentrically, so that the movement of the pin along the slot will cause a slower motion in the feeding than in the return motion of the pusher.

**Claim.**—The stave pusher or driver *B*, when operated by the wheel *D*, head *E*, revolving slotted arm *F*, shaft *f'*, arm *G*, and pitman *I*, or their equivalents, substantially as and for the purpose set forth.

**72,649.**—ROGER W. LOVE and ALBERT BALL, Windsor, Vt.—*Machine for Channeling Rocks*.—December 24, 1867.—The cutters have a revolving motion on their axis and a feed movement in the cutting direction. The machine is fed longitudinally by a rack pinion and an oscillated pawl lever.

**Claim.**—First, in a rock channeling machine, constructed substantially as described, the wheels *O* and *N*, on the shaft *S*, operating in connection with the wheels or gears which rotate or revolve the drills or cutters, substantially as shown and set forth.

Second, in a rock channeling machine having rotating cutters, the devices for stopping and also for reversing the feed apparatus, either automatically or by hand, substantially as described and for the purpose set forth.

Third, in combination with the yoke and drills, the anti-friction rollers, constructed and applied as set forth.

Fourth, the devices for moving and fixing the carriage or machine, when constructed with stops for giving limited and regulated motion to the carriage, substantially as set forth.

**72,650.**—JOHN B. LOWELL, Baltimore, Md.—*Steam Engine Globe Valve*.—December 24, 1867.—The valve stem passes through a sleeve which screws in the cap. The hand wheel is upon a square portion of the stem and clutches with the sleeve. The hand wheel is reversible, in which case the clutch projects upward and the stem turns in the sleeve for grinding the valve face.

**Claim.**—The combination of the hand wheel, constructed with the clutch *v* and the square opening, as described, with the sleeve *e* and valve stem *C*, the latter being constructed as set forth, and all the parts operating together, substantially in the manner and for the purpose specified.

**72,651.**—JOHN J. LOWER, Tennessee, Ill.—*Bee Hive*.—December 24, 1867.—At the bottom of the front wall of the hive are openings into a moth chamber communicating through a finely perforated plate with the hive interior; suitable places encourage the deposition of eggs. The whole device may be withdrawn from the back. The honey frames are slid in on rods which pass through the sides, and are secured in position by blocks and pins.

**Claim.**—First, the moth chamber *A* with its entrances *a*, breeding spiles *a'*, door *a''*, and perforated plate *a'''*, substantially as described.

Second, the movable sashes *b''*, with projections *b'''*, and pins *b''''*, when combined with rods *b'*, sockets *y*, and holes *x*, substantially as described.

**72,652.**—JOHN MADDEN, Cleveland, Ohio.—*Guard for Circular Saws*.—December 24, 1867.—The guard is a flat plate in the plane of the saw, and is intended to prevent splinters being thrown up by the rear side of the saw.

**Claim.**—The herein described adjustable circular guard *F*, so arranged in relation to the saw *B* that the said guard and saw shall turn on one common center and in the same plane, so that the said guard will cover or expose more or less of the saw-teeth upon one side only of the saw, substantially as and for the purpose specified.

**72,653.**—S. B. MANN, Indianapolis, Ind.—*Land Roller*.—December 24, 1867.—The cylindrical roller



has capacity for a number of metallic balls as means of varying the weight to suit the requirements.

*Claim.*—The combination and arrangement of the hollow cylindrical rollers G G' with the metallic balls H H H, as and for the purpose specified.

**72,654.**—JOSEPH P. MANTON, Providence, R. I.—*Tool Holder.*—December 24, 1867.—Improvement on patent of Theodore Cooper, July 3, 1866. The wedge clamp has a screw-threaded extension, on which a nut screws to draw the wedge clamp inward, and simultaneously draw the jaws together on the tool and press the clamp against its side.

*Claim.*—The combination in a tool holder of the wedge clamp D, with the flexible jaws b b' arranged to co-operate in gripping an independent cutting tool C, substantially as herein described.

**72,655.**—SAMUEL MARDEN, Newton, Mass.—*Nail Drawer.*—December 24, 1867.—The moving jaw is pressed inward by the cam, which forms the fulcrum, and is consequently operated by depression of the lever.

*Claim.*—A cam c acting as a fulcrum to a lever d, and as a lever to a jaw b, substantially as described.

**72,656.**—THOMAS P. MARSHALL, Trenton, N. J.—*Stamp Wetting and Pen Cleaning Instrument.*—December 24, 1867; antedated December 17, 1867.—The base of the pen rack has a water trough in which a pen wiping and stamp wetting roller rotates. A similar roller is placed above it for pressure.

*Claim.*—First, the two rollers h and h', combined with a trough D, substantially as described.

Second, the rollers h and h' on spindles, caused to turn in a frame having an opening x, through which an envelope or other article can be introduced to the said rollers, as set forth.

Third, the said spindles d and d', each having a cylinder made of sponge, cloth, or other absorbent material, the cylinders being free from contact with each other, and the lower cylinder being arranged to revolve in a trough containing water, all substantially as set forth.

**72,657.**—CHARLES F. MAWBEY, Woodbridge, N. J.—*Gate.*—December 24, 1867.—The gate is opened by the wheel treadle, and is closed by a spring beneath the treadle.

*Claim.*—First, the combination of the gates G, arms c, and pivoted rods D, when constructed as shown and arranged so as to operate by the platforms A A', substantially in the manner and for the purpose set forth.

Second, the platforms A A', when pivoted at their inner edges under the gates G G, and operating the gates, substantially in the manner and for the purposes specified.

Third, the hinged plank F, when attached to the outer edge of the platforms, and operating substantially in the manner and for the purposes specified.

Fourth, the combination of the latch I, springs i i', platforms A A', and gates G G, substantially as and for the purpose set forth.

Fifth, the movable prop M, or its equivalent, in combination with the platform A A, when so constructed and arranged that when thrown out of position it will allow the platform A A to descend.

Sixth, the combination of the lever L, prop M, rod O, and bar D, when operating in the manner and for the purposes specified.

**72,658.**—JAMES McCABE, Lewiston, Me.—*Composition for Oiling Wool.*—December 24, 1867.—Composed of Irish moss, 8 pounds, dissolved in soft water, 22 gallons; to this add lard oil, 10 gallons; molasses, 1 pound; borax, 4 pounds, and ammonia, 1 pint.

*Claim.*—As a substitute for oil in preparing wool for carding and spinning, a composition made up of the ingredients substantially as described.

**72,659.**—WILLIAM McCABE, Groton, Mass., assignor to himself, DAVID McCABE, and DANIEL McCABE, same place—*Lamp Burner.*—December 24, 1867.—The top of the wick tube has a cylindrical piece fitted thereon, having upward projections at each edge of the flame.

*Claim.*—An improved air deflector, as made, with its parts b b arranged above the rest of the ring and

with respect to the tube a, so as when in use to contract the flame widthwise at its base, as set forth.

**72,660.**—J. W. McDONALD, Osgood, Ind.—*Printing Press.*—December 24, 1867.—The sleeve part of the operative lever is connected to the roller carriage, which is brought from the fountain roller over the form by extension of the handle. The fountain roller is rotated by a winch.

*Claim.*—The slides L L, the sleeve N N', and strips l l, with the inking roller O, combined and operating substantially as set forth, with the platen F.

**72,661.**—J. H. McMINN, Logansport, Ind., THEODORE J. McMINN, administrator.—*Mill Spindle.*—December 24, 1867.—The friction cone is fast to the spindle, and the friction sleeve rests on the ring, which is raised by a lever operated by a temper serew. The driving wheel is fast to the sleeve, and connects by a clutch with a collar, spline-keyed to the spindle. By unclutching the spindle from the collar the spindle will be driven by the friction sleeve, and by raising the sleeve the stone may be allowed to stop.

*Claim.*—The mode of gradually starting or stopping millstones, substantially as set forth, by means of the following combination of parts, viz., the spindle a, cone f, pinion e, ring g, tempering lever h, clutch c, and lever d.

**72,662.**—HAMILTON S. McRAE, Muncie, Ind.—*School Desk.*—December 24, 1867.—The rear half of the desk is hinged to the remainder, and may be raised and sustained by a pawl to answer for a book holder.

*Claim.*—The book holder, located in the back part of the lid of the desk, constructed, arranged, and operated as herein recited.

**72,663.**—MARTIN J. MELLYN, Roxbury, Mass.—*Mode of Securing Felloes.*—December 24, 1867.—The joint between the felloes is strengthened by lapping plates. The outer plate has ribs preventing side slipping of the felloe ends.

*Claim.*—The metallic plate B having a bolt C and ribs a a, when constructed and used in the manner and for the purposes set forth.

**72,664.**—WILLIAM J. MILLAR, McKeesport, Pa.—*Car Coupling.*—December 24, 1867.—The coupling bars move in a vertical plane, and the hooks being on their lower sides their weight prevents uncoupling.

*Claim.*—Two coupling bars attached by bolts, one to each of two opposite drawheads, each coupling bar having an arrow-shaped head and hook, in combination with the hopper-shaped or conical bullnose b, and pins or bolts over which the hooks slide and couple, for the purpose of forming a self-connecting and disconnecting car coupling, substantially in the manner hereinbefore set forth.

**72,665.**—SIMEON MILLS, Madison, Wis.—*Car Coupling.*—December 24, 1867.—The bar extends from the coupling pin to the car top, and has a hook to engage the releasing slide when the coupling catch is raised.

*Claim.*—The bar I jointed at x, so that it can be turned down and out of the way of door L, and provided with a notch and an eye or hook, when used in combination with an open spring catch J and the hooked and pivoted coupling C, as and for the purposes set forth.

**72,666.**—THOMAS A. MITCHELL, Washington, D. C.—*Fastening for Carriage Curtains.*—December 24, 1867.—The metallic tip of the elastic strap has a semicircular buttonhole extended to form a longitudinal slot.

*Claim.*—The elastic strap A, in combination with the metal tip B, when the latter is provided with a buttonhole, substantially as described.

**72,667.**—JAMES H. MONTROSE, New York, N. Y.—*Hinged Fishing Rod.*—December 24, 1867.—The sections are jointed together, and when straightened out are made inflexible by sleeves which are slipped over them.

*Claim.*—A sectional fishing pole, having the several sections A, B, C, &c., permanently connected



by hinged joints, constructed and arranged relatively to the sections and to each other, substantially as and so as to fold in the manner herein described.

**72,668.**—CHARLES J. NELSON, Rockford, Ill.—*Rocking Chair*.—December 24, 1867.—The springs are attached to the rocker bottoms and have a foot-rest at their free and forward ends. The chair is rocked by varied pressure on the foot-rest.

*Claim.*—The spring shoes *a a*, in combination with the chair *A*, substantially as described.

**72,669.**—JOHN NOLAND, Philadelphia, Pa.—*Machine for Bending Metal*.—December 24, 1867.—Explained by the claim.

*Claim.*—The former *A*, on the edge of which are two curves, the reverse of, but meeting each other, in combination with the levers *C* and *F*, carrying rollers or their equivalents, and so hung that the said rollers can be moved, that of one lever in the arc of a circle concentric with that of one curve, and the other in the arc of a circle concentric with that of the other curve on the edge of the frame, all as set forth for the purpose specified.

**72,670.**—J. V. HENRY NOTT, New York, N. Y.—*Construction of Checkers*.—December 24, 1867.—The checker is made wider at the top and is recessed to receive the lower and smaller end of the other checker in crowning.

*Claim.*—First, the flange or rim *B* around the upper edge of the checker, as and for the purpose set forth.

Second, the checker made in the form of an inverted truncated cone, substantially as and for the purpose set forth.

**72,671.**—JAMES PARISH, Chicago, Ill., assignor to himself and JOSEPH CREOTE, same place.—*Drag Hook*.—December 24, 1867.—The floats run diagonally from the stock to the head, and are adjustable to limit the depth to which the fluke enters the mud in attempts to recover anchors or chains from the bottom. The rollers on the cross-bar aid the grapnel in passage over obstructions.

*Claim.*—First, the rollers *D D*, in combination with the stock *A*, constructed substantially as and for the purposes specified.

Second, the combination of the guards or floats *C C* with the flukes *B B*, constructed substantially as and for the purposes set forth.

Third, the combination and arrangement of the stock *A*, flattened flukes *B*, and buoy-line shackle *e*, with the floats *C C*, substantially as and for the purposes specified.

Fourth, a grapnel or drag hook, constructed substantially as and for the purposes specified.

**72,672.**—ISAAC T. REASE, Thompsonville, Conn.—*Fire Alarm*.—December 24, 1867.—The expansion of the compound bar releases the hammer rod from the detent notch, and allows a common alarm movement to operate.

*Claim.*—First, the curved expansion bar *B*, composed of two metals, of different rates of expansion by heat, and the adjustable screw *S*, when constructed and arranged substantially as herein described, for the purpose of a fire alarm.

Second, the combination of the bar *B*, the screw *S*, the alarm movement *G*, the lever *J*, the levers *K* and *L*, or their equivalents, substantially as herein described.

**72,673.**—JOHN PELSOR, Brooklyn, Ill.—*Churn*.—December 24, 1867.—Two pendulous dashers swing reciprocally, the inside dasher bars of one passing through between those of the other.

*Claim.*—First, the staffs *E E*, furnished with dasher boards *g*, so constructed that the lower half of the boards on one staff will pass the upper half of the board *g* on the other without impinging.

Second, the box *A*, the top *B*, the staffs *E E*, the arms *C*, and pulley *m* and *n*, the whole combined, constructed, and operating substantially as described.

**72,674.**—OLIVER PERRY and CLARK PERRY, Ortonville, Mich.—*Sheep-shearing Table*.—December 24, 1867.—Improvement on their patent April, 1867. The bar is for a neck-rest, and the strap is to hold the head while the neck is being sheared.

*Claim.*—The sill or bar *G*, and strap *H*, used upon the table *B'*, substantially as and for the purpose set forth.

**72,675.**—MILTON E. PHILIPS, Lena, Ill., assignor to himself and GEORGE WETZEL.—*Threshing Machine*.—December 24, 1867.—The teeth of the rotating rakes project upward between the slats of the straw conveyer. The machine is convertible as a grain separator or clover huller. The concave casing of the huller cylinder has a yielding portion kept in position by a spring, and intended to allow escape to stones. This cylinder has a series of spiral serrated ribs.

*Claim.*—First, the combination, as described, with the threshing cylinder *D* and stationary slats *e*, of the rotating rakes *E*, having their shafts connected at each end with the same gear wheels which drive the threshing cylinder.

Second, the combination, substantially in the manner described, of the threshing cylinder *D*, the parallel slats *e*, the rotating rakes *E*, the longitudinally vibrating screen *F*, and the shaking shoe *H*, with the fan *K*, for the purpose set forth.

Third, the combination, as described, of the threshing cylinder *D* with the hulling cylinder *M*, whereby both are driven at each end from the same gear wheels.

Fourth, the combination, as described, of the spiral rasped surface beaters of the hulling cylinder *M* with the yielding concave *m*.

Fifth, the combination of the closed fan case *k* with the adjustable regulating valve *s*, controlled by the spring detent *s'*, as set forth.

Sixth, the combination, substantially as described, of the threshing cylinder *D*, the rotating rakes *E*, the vibrating screen *F*, the shaking shoe *H*, and the hulling cylinder *M*, whereby they are all driven by the same counter shaft.

Seventh, the combination with the hulling cylinder *M* of the vibrating screen *F*, and elevator *I*, all arranged and operating as described.

Eighth, the combination with the hulling cylinder *M* of the elevator *O*, the shaking shoe *H*, the fan *K*, and the revolving screen *J*, all arranged and operating as described.

**72,676.**—GEORGE W. POWERS, Boston, Mass.—*Operating Feed Wheels in Sewing Machines*.—December 24, 1867.—Intermitting rotary movement is imparted to the feed wheel by the action of a friction lever, which carries the wheel with it in one movement, but slides back freely in the back stroke. The lever is connected to a pawl whose point is inserted beneath the clutch lever.

*Claim.*—The combination of the lever, friction pawl, and entering wedge or pin together and with the feed wheel and rocker plate, when the whole are constructed and arranged to operate substantially as set forth.

**72,677.**—TREAT T. PROSSER, Chicago, Ill.—*Brush and Mop Head*.—December 24, 1867.—The attaching screw of the head is screwed into the end of the staff, and the mop clamping wire is connected by a lever to the nut, whose thread works on pins projecting from the staff.

*Claim.*—First, the combination of the movable ferrule with the pins in the handle of the mop, all as for the purposes set forth.

Second, the combination with the handle of a brush and mop holder of a ferrule, provided with screw threads upon its interior surface and with lugs on the outside, all as for the purposes set forth.

Third, the combination of the ferrule *b b*, provided with lugs *c c*, and the lever *d d*, all as for the purposes set forth.

Fourth, the lever beam *d d*, with movable fulcrum, operate the wire that holds the mop, all as for the serving to hold the brush at one end, and also to purposes set forth.

**72,678.**—ABRAHAM QUICK, WILLIAM S. OPIE, and A. J. FARRAND, Raritan, N. J.—*Harvester*.—December 24, 1867.—The finger beam and platform are bolted to a shoe, having a horizontal socket in which a pin swivels, permitting the finger beam to rock, and raise or lower the points of the guards. The socket pin is pivoted to play vertically in bear-



ings in an intermediately-hinged coupling arm, which plays vertically on a pivot in a bracket, adjustable vertically in a guide piece by a slot and set screw. The guide piece is bolted to the frame, and projects both above and below it. The lifting lever has bearing at the upper end of the standard, and is connected by a chain to the transverse lever, which is pivoted at one end to the stubble side of the frame, and connected by a chain at the other end to the heel of the finger beam. A weighted latch, in form of a bell-crank lever, plays vertically on the inner side of the frame, and rests against the guide piece. The rear part of the latch has notches to hold up the transverse lever. The attendant bears his weight on the front arm to release the latch, its weight causing it to fall back against the guide piece again.

*Claim.*—First, the combination, substantially in the manner described, of a finger beam with the main frame of a harvester, by means of three joints  $h$   $h'$  and  $i$ , arranged in the same vertical plane, or nearly so, when two of said joints have a vertical and the third an axial movement on their pivots, for the purpose of allowing the cutting apparatus both a vertical and an axial movement.

Second, the combination with a harvester of an odometer, arranged and operating substantially as and for the purpose described.

Third, the chain carrier, arranged on the drag bar as described.

**72,679.**—BELLVILLE L. RANDALL, Roxbury, Mass.—*Railway Carriage*.—December 24, 1867.—The truck frame is supported on the axle boxes by a combination of levers and springs, whereby the downward pressure on the axle boxes tends to prevent the end of the platform from sagging.

*Claim.*—First, the combination as well as the arrangement of the levers  $E$   $F$  and the springs  $I$  with the platform and truck frame.

Second, the combination as well as the arrangement of the levers  $E$   $F$ , the springs  $I$ , and the springs  $G$  with the platform and truck frame.

Third, the combination as well as the arrangement of the levers  $E$   $F$ , the springs  $I$ , and the springs  $H$  with the platform and truck frame.

Fourth, the combination as well as the arrangement of the levers  $E$   $F$  and the springs  $I$   $G$   $H$  with the platform and the truck frame.

**72,680.**—JAMES RANEY, New Castle, Pa.—*Water Wheel*.—December 24, 1867.—The water is received at the periphery and tends downward in the wheel. The wheel is surrounded by two concentric rings. One of the rings carries guide blocks recessed in those of the other, one of the rings being turned on the other to regulate the supply of water.

*Claim.*—The buckets  $B$   $B$ , slightly curved, and having bottoms which taper in width and thickness, as shown and described, when connected between the plate and circular metallic rim  $E$ , all constructed and used as and for the purposes specified.

**72,681.**—ALBERT CHRISTIAN RICHARD, Point Lookout, Tenn.—*Hay Press*.—December 24, 1867.—The follower has bars projecting through the sides of the box, and supporting the pawl and lever link at each side. The lever and pawl engage fixed ratchet racks on the sides.

*Claim.*—The combination of the platen  $e$ , the bars  $g^1$  and  $g^2$ , the links  $h$  and  $k$ , or their equivalents, the toothed rack  $j$ , and levers  $m$ , all arranged and operating substantially as set forth.

**72,682.**—JOHN RISHER, Delaware, Ohio.—*Churn*.—December 24, 1867.—The radial arms of the vertical, rotating dasher shaft have spherical ends.

*Claim.*—The dasher  $B$ , with its arms  $C$   $C$   $C$ , constructed as herein described, and used in the box  $A$ , in the manner and for the purposes described.

**72,683.**—CHARLES W. RUSSELL and NEIL CLIFFORD, New York, N. Y.—*Lamp*.—December 24, 1867.—The supplemental glass cylinder is interposed between the deflector and the chimney, and the cold air passes up between the latter and the cylinder.

*Claim.*—The deflector  $B$ , when its cap  $a$ , supported upon metal strip  $b$ , is surrounded by the supplemental glass cylinder  $c$ , having a contracted top, and resting upon the burner  $A$ , between the rows of perforations

$d$   $h$ , said cylinder being also surrounded by the base  $e$  of the chimney  $C$ , as herein described, for the purpose specified.

**72,684.**—RICHARD H. RYNE, New York, N. Y., assignor to WILLIAM S. HICKS, same place.—*Pen and Pencil Case*.—December 24, 1867.—The case consists of a single tube with a screw cap, and a reversible pen holder and pencil point.

*Claim.*—A combined pen and pencil case, consisting of the case  $A$  and the reversible pen holder  $C$ , having a screw pencil point  $a$  arranged therein, substantially as shown and described.

**72,685.**—J. F. SACHSE, Philadelphia, Pa.—*Cloth Plaiting Machine*.—December 24, 1867.—The metallic blade is depressed upon the fabric by a treadle. The device is used for folding shirt bosoms, &c.

*Claim.*—An adjustable blade  $C$ , arranged to operate in combination with an adjustable bar  $b$ , substantially as and for the purpose described.

**72,686.**—WILLIAM H. SALTMARSH, Waltham, Mass.—*Belt Shipper for Mules*.—December 24, 1867.—The belt shipper is operated by the mule carriage instead of the cam shaft. The belt is shipped before the mule arrives at either terminus, and the device is adjustable to operate at any point.

*Claim.*—The combination and arrangement of the swinging bar  $M$  with the link  $N$ , the rod  $D$   $E'$ , and the shipper  $E$   $F$ , substantially as described and for the purpose set forth.

**72,687.**—WILLIAM SCHIMOLZ, San Francisco, Cal.—*Solar and Transit Instrument*.—December 24, 1867.—A surveyors' transit instrument is provided with a solar attachment, so that the operator may find the longitude, latitude, true meridian, hour of the day, the sun's declination, and the variation of the needle.

*Claim.*—The hour-circle  $N$ , fastened upon the base  $P'$   $A'$ , with a solar apparatus attached upon the axis  $P$ , in combination with a surveyors' transit, substantially as described and for the purposes set forth.

**72,688.**—WILLIAM SERVISS, Sidney, Ohio.—*Machine for Making Rings*.—December 24, 1867.—The mandrel is formed D-shaped, or oblong in transverse section, and the wire is coiled thereon, each coil annulus forming a handle to a tinware or sheet-iron pan.

*Claim.*—First, the interchangeable mandrels formed with a hole near one end, in combination with the shaft furnished with a crank, substantially as and for the purpose specified.

Second, the arrangement of the mandrel upon the shaft  $C$ , with reference to the anvil  $B$ , furnished with grooves  $a$  in its upper surface, substantially as and for the purpose specified.

Third, the supplemental flat-faced anvils  $A^*$   $B^*$   $C^*$ , arranged in relation with the main anvil  $B$  and the mandrel on the shaft  $C$ , substantially as and for the purpose specified.

**72,689.**—GEORGE V. SHEFFIELD, Worcester, Mass.—*Steam Generator*.—December 24, 1867.—The cylinder is placed immediately over a furnace and in communication with the fire space, through an upwardly-opening valve, so that when the piston is raised the caloric current enters the cylinder, and when the piston is caused to descend the heated matter is forced into the generator to superheat the steam. The piston rod is tubular, and the cylinder has a water jacket in communication with the generator, to prevent too high temperature.

*Claim.*—First, the combination with the boiler or steam generator and fire chamber of a fire injector and steam superheater, under the arrangement described, whereby the flame and heated gases shall be taken from the fire-chamber, and forced or driven, under pressure, into the boiler or steam generator, substantially as herein shown and set forth.

Second, the combination with the cylinder  $F$  and fire chamber  $G$  of the chamber  $c$ , piston  $H$ , fire pipes  $I$  and  $f$ , substantially as and for the purposes set forth.

**72,690.**—GEORGE V. SHEFFIELD and B. WHITCOMB, Worcester, Mass.—*Belt Fastening*.—December 24, 1867.—The ends of the claw plate are slit into a series of points, whose in-turned claws grasp both



sides of the belt. The claws are made to vary in length on the different sides, to avoid weakening the belt by too close proximity of the holes.

*Claim.*—First, a belt-fastening, constructed substantially as shown and described.

Second, making one-half or a part of the shanks of the hooks a longer than the others, for the purposes stated.

**72,691.**—THOMAS SHAPARD, Haywood county, Tenn.—*Cleaning Cotton.*—December 24, 1867.—The lint room is hopper-shaped, and has openings between the slats of which the sides and bottom are built, for the escape of dust.

*Claim.*—The lint room, as above described, made of slats, allowing the dust and dirt to escape, in lieu of the ordinary close lint room, which does not allow the dust and dirt to escape.

**72,692.**—AMOS M. SMITH, Chicago, Ill.—*Sash Lock.*—December 24, 1867.—The double catch bolt projects upward from the window sill, and is engaged by the spring catches when the window is closed. The catches have outward projections, which are engaged by inward projections upon the arms of the lifting piece to free them from the bolt.

*Claim.*—First, the combination of the lifter L, jaws D, and levers E, arranged and operating substantially as and for the purposes specified.

Second, in combination with the above, the arrangement of the bolt H, operating as shown and described.

Third, the arrangement of the springs h h, in combination with said levers E and bolt H, substantially as and operating as set forth.

**72,693.**—DANIEL N. SMITH, Salem, and E. F. OLDS, Lyon, Mich.—*Fence.*—December 24, 1867.—The sections of the rider are scarfed together and the joint inclosed in metallic bands, making a continuous bar which is supported on stakes whose lower ends are tenoned into the foundation blocks.

*Claim.*—The continuous rider G, as arranged, in combination with the braces E, stakes C, and rail B, in the manner as and for the purpose set forth.

**72,694.**—HENRY SPEELER, Trenton, N. J.—*Heating Pottery and similar Furnaces.*—December 24, 1867.—Superheated steam is injected into the mass of burning fuel to increase the heat thereof.

*Claim.*—A steam pipe, in combination with a "fire mouth," for heating pottery ovens, kilns, and for other like ovens, substantially as described.

**72,695.**—CORNELIUS ST. JOHN, Charlestown, Mass.—*Parasol.*—December 24, 1867.—The corrugated-paper top is either sustained or held in a folded position by the expander, which is a wire whose top is bent into a ring and its lower end into a helix surrounding the handle and sliding thereon.

*Claim.*—As a new or improved article of manufacture and invention, the sun-shade, as composed of the stick A, the corrugated-paper body B, and the metallic expander C, made and arranged substantially in manner and so as to operate as described.

Also, the expander C, made as explained—that is, of a single piece of wire, first bent in a circle, and next downward from the circle, at an acute angle to its plane, and afterwards in a helix, the whole being as shown in the drawings.

**72,696.**—F. SWIFT, Hudson, Mich., assignor to himself and HORACE WILSON.—*Grain Separator.*—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, the fan shaft C, provided with two sets of wings, secured on in different positions and with a pulley between them, as and for the purpose set forth.

Second, in combination with the fan, as herein constructed, the shaft J, band H, pulleys D K, screws G I with springs L L, and bar N, all constructed, arranged, and operating substantially as specified.

**72,697.**—J. B. TERRY, Hartford, Conn.—*Gasoline Locomotive Head Light.*—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, a locomotive head light or lantern, consisting of the combination of a vessel to hold the gasoline, or other similar hydrocarbon liquid, with an

internal or external heater to vaporize such liquid, for the direct production therefrom of illuminating gas, as set forth.

Second, the combination with a hydrocarbon liquid-holding vessel, provided with one or more burners, of an internal coil or surrounding jacket, admitting steam from the locomotive boiler to heat the liquid within the vessel, as shown and described.

Third, the combination with the hydrocarbon vessel, of an elastic diaphragm and stopper or valve, operating in connection with the steam-admission pipe, substantially as described, so as to regulate the flow of steam and pressure in the vessel, as set forth.

Fourth, in an apparatus, substantially as described, the combination with the hydrocarbon vessel, of wood shavings, or their equivalent, to prevent the swash or agitation of the liquid within the vessel, substantially as and for the purposes set forth.

**72,698.**—ISAAC P. TICE, New York, N. Y.—*Spirit Meter.*—December 24, 1867.—The primary divisions of the meter are arranged to tilt when filled with liquor and secondary receptacles receive the overplus of liquor required to tilt them. The liquor from the primary and secondary receptacles is discharged into different meters, the proportion of overplus determining the strength.

*Claim.*—First, a measuring can, so constructed and operating as that, after the measuring chamber has been filled with fluid, a surplus will so load the can as to cause it to tilt and empty its contents, in such a manner as that the measured quantity or volume and the surplus or unmeasured quantity will be discharged into different receivers, substantially as specified.

Second, the combination of a measuring can and weighing can or cans, separate and distinct from each other, so that the several operation of these devices will give the specific gravity of the fluid by weight and measure.

Third, in a spirit meter, the use of a plurality of weighing and measuring cans, arranged and operating in such manner as that a fixed quantity of spirit, apart from the aggregate passing through the meter, is measured and weighed for determining the proof, essentially as herein set forth.

Fourth, in combination with a measuring can, an extra or separate weighing can, for weighing the surplus or overflow not passed through the measuring can, substantially as specified.

Fifth, the combination with a primary receiver A of an overflow pipe, or its equivalent, arranged to conduct the surplus supply from said receiver to the surplus weighing can, or receiver connected therewith, essentially as herein set forth.

**72,699.**—ISAAC P. TICE, New York, N. Y.—*Spirit Meter.*—December 24, 1867.—The tilting can has a horizontal diaphragm having an aperture for passage of liquor beside the central vertical division. The surplus liquor, over a certain quantity required to tilt the can, remains above the diaphragm when the main quantity is discharged through the siphon. The accumulating liquor raises a float connected by a lever with the weighted catch which allows that end of the can to descend by its gravity, the charging spout being simultaneously turned toward the other division. The devices may be connected to a weighing beam to indicate the strength of the spirit.

*Claim.*—First, a measuring can, provided with a discharging siphon or siphons, operating or having flow through them established by the tilting of the can, substantially as specified.

Second, a diaphragm measuring can, forming distinct measuring and surplus chambers, in combination with siphonic discharge pipes, essentially as shown and described.

Third, a diaphragm measuring can, operating substantially as described, in combination with a weighing can, or device for ascertaining the proof by weight and quantity, as specified.

Fourth, providing the measuring can and weighing can, or either, with air-dash pots or cushioning devices, essentially as herein set forth.

Fifth, the combination of the floats F F' and catches H H', or the equivalents of these devices, and tilting hopper with a measuring can having a siphonic discharge, substantially as specified.



**72,700.**—ISAAC P. TICE, New York, N. Y.—*Spirit Meter.*—December 24, 1867.—The liquor from the still is divided into two streams, one of which is measured as to volume, and the other is passed into a cylinder where its grade is determined by weight and its volume by a register operated by a ratchet on the piston rod, which actuates a ratchet wheel on the register spindle.

*Claim.*—First, the combination in a spirit meter of a weighing can and can for determining volume, receiving in a given time or times an equal or proportionate supply with the weighing can, for ascertaining the specific gravity of the fluid.

Second, the combination of a float or piston with the can determining volume for a given weight, to actuate in any suitable manner a registering device, substantially as specified.

Third, controlling the filling and discharge of the can which determines volume for a given weight by the action of the weighing can, essentially as herein set forth.

Fourth, in combination with the devices for determining specific gravities, the hopper A, divided as at b, and furnished with separate discharge pipes D and E, substantially as specified.

Fifth, the combination of a weighing can or device, volume-determining cylinder or can H with its piston I, valve L operated by the weighing can and gear g J, essentially as described.

**72,701.**—ISAAC P. TICE, New York, N. Y.—*Spirit Meter.*—December 24, 1867.—The receiving vessel of the meter has an air chamber containing an open-topped water cylinder. A rectangularly bent pipe extends from near the cylinder bottom to a vessel attached to the two rods, whose lower ends bear more or less on this "toe" upon the tilting box shaft, and so regulate its tilting by the temperature of the liquor; an increase of heat expanding the air in the chamber, and forcing the liquid through the pipe into the vessel which is attached to the rods. The rods pass through eyes of a toggle-joint connected with a float in a vessel communicating with the receiver. The increase of gravity of the liquor in the vessel raises the float, and drawing up the toggle draws together the rods to decrease their influence on the toe by bringing them nearer to the axis.

*Claim.*—First, the combination with a spirit meter, or weighing and measuring cans thereof, of a thermocompensating device or attachment, operating automatically to control the quantity of the spirit weighed, or weighed and measured, in its passage through the meter, substantially as specified.

Second, regulating, in an automatic manner, the action or discharge from the weighing can of a spirit meter by the varying specific gravity of the fluid, essentially as herein set forth.

Third, the combination in a spirit meter of devices automatically operating, by the varying densities and temperature of the fluid passing through the meter, to regulate the action of the weighing can, substantially as specified.

Fourth, the combination of the toe l on the weighing can shaft, and rods k k, with a device operated by the temperature of the spirit, for adjustment of weight on said rods, to regulate the action of the weighing can, substantially as specified.

Fifth, the toggle joint I, rods k k, and toe l, in combination with a float, operated by the specific gravity of the spirit, essentially as and for the purpose herein set forth.

**72,702.**—ISAAC P. TICE, New York, N. Y.—*Spirit Meter.*—December 24, 1867.—Explained by the claim and illustration, and by reference to patent No. 72,698.

*Claim.*—Registering the specific gravity or strength of the spirit passing through the meter by means of weighing cans, so arranged and operating as that the overflow or surplus of the one can is weighed and recorded by the second, while the main contents of such first can are diverted from passing through the second or lower can, substantially as specified.

**72,703.**—JOHN VAUGHN, College Grove, Tenn.—*Combined Planter and Cultivator.*—December 24, 1867.—A cotton seed hopper with a rotating agitator and feeder, opening plow, and coverers, are combined with cultivator plows, harrow, and rotary chopper.

The implement is intended for planting and cultivation of cotton.

*Claim.*—First, the triangular frame t, bearing the small plows p p, when used in connection with a cotton cultivator, substantially in the manner and for the purposes set forth.

Second, the combination of the draw beam A, wings B B, plows p p P, opening plow S, frame F, wheels D D', shaft C, seed box I, conductor b, and covering plow d, substantially as shown and described.

Third, the covering plow d, when hung loosely between two guides g g, so as to have a free vertical but no lateral motion, substantially as described.

Fourth, the frame F, when constructed with hooks h h, which operate in connection with eyes e e to hold the frame to the wings B B, when used in connection with a cotton planter and cultivator, substantially in the manner and for the purposes specified.

**72,704.**—CHARLES F. VOLLMER, Harrisburg, Pa.—*Extension Bed Lounge.*—December 24, 1867.—A chamber within the base contains an extension frame and mattress, which is hinged to the said base, and has jointed legs to support its outer side.

*Claim.*—First, an improved extension lounge, formed by the combination of the following parts: An ordinary top, consisting of a seat a, arm rest c, and back b, firmly secured to each other; the extension D, the extension arm rest or pillow G, the base B, having bottom a' and the automatic closing and opening legs F, all as herein described.

Second, the combination of top a b c, base b, extension D, legs f, and pillow G, substantially as and for the purpose described.

**72,705.**—OSCAR F. WASHBURN, Bridgewater, Vt.—*Machine for Making Paper Collars.*—December 24, 1867.—Explained by the claims and illustration.

*Claim.*—First, a collar-formed die for cutting out a collar, when provided with an embossing device situated within the cutting edge of the die, substantially as described.

Second, a collar-formed die for cutting out a collar, when provided with an embossing device and an indentation for folding a collar, substantially as described.

Third, a collar-formed die for cutting out collars, when provided with an embossing device and indentations for button-holing, substantially as described.

Fourth, a collar-formed die for cutting out a collar, when provided with an indentation or crease for folding, substantially as described.

Fifth, a movable platen, in combination with a collar-formed die, having inside its cutting edge an embossing device, substantially as described.

Sixth, a movable platen provided with cutters, in combination with a collar-formed die, having an embossing device and indentations for button-holing, all operating together substantially as described.

Seventh, a collar-formed die, having an embossing device, a crease for folding, and indentations for button-holing, in combination with a movable platen provided with cutters and with a folding knife, substantially as described.

Eighth, a roller-feeding mechanism, and a collar-cutting and embossing mechanism, substantially such as described, in combination.

Ninth, a roller-feeding mechanism, and a collar-cutting and embossing and a button-holing mechanism, such as described, in combination.

Tenth, a roller-feeding mechanism, a collar-cutting and embossing, a button-holing and a folding mechanism, substantially such as described, in combination.

Eleventh, a roller-feeding mechanism, a collar-cutting and folding mechanism, substantially such as described, in combination.

Twelfth, the combination of geared feeding rollers E with toothed arm j and lever O, constructed and operating as and for the purpose described.

Thirteenth, the combination of shaft F, eccentrics K M, rods L M<sup>2</sup>, movable platen I, slide N, and folding knife H, substantially as and for the purpose described.

Fourteenth, the machine herein described, when constructed, combined, and operating to cut, emboss, button-hole, and crease a collar to be folded at a single operation or revolution of the main shaft, all as set forth.



**72,706.**—LE ROY S. WHITE, Waterbury, Conn.—*Spoon Blank*.—December 24, 1867.—Explained by the claim and illustration.

*Claim.*—The spoon blanks, of such form and so cut and stamped out of the bar or plate without intervening scrap, substantially as specified.

**72,707.**—CHARLES WHITTIER, Roxbury, Mass., assignor to UNION STEAM VALVE COMPANY.—*Steam Engine Slide Valve*.—December 24, 1867.—The valves operate at right angles to the cylinder axis and as close to the inlet as possible. A series of openings in the valve admits the steam simultaneously into a similar series of steam ports in the cylinder, so as to allow a full flow of steam with a slight movement of the valve. The exhaust valve is reversed in relation to the head valve, so that the steam first enters the inside of the valve in both cases.

*Claim.*—The arrangement of the balance slide valves, in relation to the steam chest and cylinder, as and for the purpose set forth.

**72,708.**—JOSIAH W. WIGHT, Chicago, Ill.—*Sled Brake*.—December 24, 1867.—The dog has a pivoted wooden knee whose lower end is armed with metal, and is kept from the ground by a button on the rave, which engages its upper and forward end.

*Claim.*—The brakes C, in combination with a sled A, when constructed and operating substantially as and for the purposes herein described.

**72,709.**—GEORGE D. WILLIAMS, Chicopee, Mass.—*Bread Cutter*.—December 24, 1867.—The knife is pivoted at one end and works between guides. The loaf is held in a box and its outer side rests on a bar outside the knife when depressed.

*Claim.*—The device consisting of the shelf A, guide frame C, knife B, and adjustable bar F, combined and arranged substantially as and for the purpose shown.

**72,710.**—WILLIAM M. YOUNG, M. D., Trempealeau county, Wis.—*Abdominal Supporter*.—December 24, 1867.—The upper part of the plate has nearly square corners and the lower part is semicircular. The plate is made of tin, and is covered with leather; it is shaped to fit the contour of the abdomen, and is supported by adjustable straps passing around pads which rest against the back.

*Claim.*—The form or shape of the abdominal plate, and the form and construction of the body band.

**72,711.**—JAMES ADAIR, Pittsburg Pa.—*Paper File*.—December 31, 1867.—The paper is transfixed by the vertical wire and held by the spring-socket piece.

*Claim.*—The paper holder, as a new article of manufacture, constructed substantially as described.

**72,712.**—EDWARD A. ALPRESS, Bristol, Conn.—*Hand-gripping Tool*.—December 31, 1867.—Explained by the claim and illustration. The object is to maintain the parallelism of the jaws in opening and closing.

*Claim.*—As a new improved article of manufacture, tongs or pliers, the handles *a* pivoted together at *a'*, their outer ends pivoted to the jaw *c c*, while the rear ends *d d* of said jaws work in sockets *i i*, to produce the opening and closing of said jaws parallel to each other, substantially as described.

**72,713.**—S. M. ARMSTEAD, Grand Haven, Mich.—*Animal Trap*.—December 31, 1867.—The rat enters beneath the trap door and a movement of the bait bar releases the trip hook and shuts the trap. The rat in passing towards the light depresses the treadle and raises the trap door.

*Claim.*—First, the method of raising the trap door A by means of the connecting chain B, and the treadle C, arranged substantially as described for the purposes described.

Second, the spring hook D, and its attachment to the bait hooks E E, operating substantially as described for the purpose indicated.

Third, the combination of the trap door A, the connecting chain B, the treadle C, the spring hooks D, and the bait hooks E E, with the box F and cage G, arranged to operate substantially as set forth for the purposes designed.

**72,714.**—WILLIAM BALL, Chicopee, Mass.—*Steam Engine*.—December 31, 1867.—Intended especially for quartz crushers and steam hammers. Explained by the claims and illustration.

*Claim.*—First, in a steam cylinder the arrangement of the depressions *t*, formed with reference to their induction and eduction ports at points intermediate between the ends of and around the inside circumference of the cylinder, substantially as and for the purpose described.

Second, the arrangement of the steam passages *k* for conducting steam from the cylinder below the piston head, in its ascent, around into space between the piston and cylinder head, to form a cushion for said piston, substantially as shown and described.

Third, in said cylinder, the arrangement of ports *h<sup>1</sup> h<sup>3</sup> h<sup>4</sup>* for operating the valves thereof, substantially as described.

Fourth, the cut-off valve *f*, in combination with the balance valve *c''* and piston *c*, substantially as described.

Fifth, the steam port 1, in combination with port 2, so arranged as to hold the piston in a fixed position until released, to prevent damage to the lower head of the cylinder, substantially as shown and described.

Sixth, the arrangement of the steam-exhaust port 4, by which a free exhaust of steam from the upper end of the cylinder is effected before the ascent of the valve *c''*, substantially as shown and described.

Seventh, producing a rotary reciprocating in connection with a vertical motion of the piston *c*, in connection with one or more ports *h<sup>1</sup> h<sup>3</sup> h<sup>4</sup>*, substantially as shown and described.

Eighth, the port 4, arranged with reference to the ports 6 and 7, whereby a free exhaust is secured after the ascent of the piston *c*, and by which, in connection with the steam cushion at the upper end of the cylinder, all injury is prevented to the cylinder in its ascent, substantially as described.

**72,715.**—WILLIAM BALL, Chicopee, Mass.—*Machine for Stamping Ores*.—December 31, 1867.—The foundation is made of horizontal tiers of timbers laid crosswise and secured together, and connected to the metallic sills by vertical bolts inserted in the openings left between the intersections. After bolting the foundation together, the interstices are filled up with grouting. The bed rests on the spring bars whose ends rest on the metallic sills. The stamp mortar is sustained by the bed.

*Claim.*—First, in connection with a quartz-crushing machine, the sills D, when constructed of metal in place of wood, as and for the purpose described.

Second, arranging the bed plate J crosswise of a series of spring timbers E, having their bearing upon metallic sills D, substantially as and for the purpose described.

Third, the construction of the staves *e'*, tapering in form from the bottom toward the top as specified, to suit the bell form of the mortar, substantially as and for the purpose set forth.

Fourth, the hammer die *e*, in combination with the surrounding stave-holding ring *e'*, substantially as and for the purpose described.

Fifth, the two-part ring *h*, secured beneath the top plate, and between it and the lining around the stamp-shaft opening, substantially as and for the purpose described.

Sixth, a tubular turn-shape ring-necking *d*, made in two parts, and secured upon the top plate around the stamp-shaft opening, substantially as and for the purpose described.

Seventh, the connection of the stamp shaft K with the steam piston *i*, by means of the bonnet *i''*, flange *i'*, and collar *j*, with the interposed elastic washers as described, all arranged and combined together in the manner and for the purpose set forth.

**72,716.**—WILLIAM E. BARTON, East Hampton, Conn.—*Manufacture of Sleigh Bells*.—December 31, 1867.—Explained by the claim.

*Claim.*—The globular sleigh bell, cast in one piece, as herein described.

**72,717.**—EDWIN R. BIGELOW, Salem, Mass.—*Car Coupling*.—December 31, 1867.—The pivoted block serves to sustain the pin when the link is uncoupled, and to sustain the outer end of the link by



pressure upon its inner end when coupled. The entering link raises the block, and consequently releases the pin.

*Claim.*—The arrangement and combination of the opening *f* in the top of the draw-bar chamber with the tumbler, made substantially in manner, and arranged in rear of the mouth of the draw bar and applied thereto, so as to operate with a compound motion, as specified.

Also, the arrangement of the journals or pin *c* of the tumbler, so as to be below that part of the tumbler which supports the pin when the tumbler is in its lowest position, in combination with vertical slots *d'* made in the sides of the chamber *d* of the draw bar, the tumbler being formed substantially as represented.

Also, the arrangement, as well as the combination, of the abutments, or their equivalent, with the draw bar and with the tumbler applied thereto, so as to operate with a compound motion, as and under circumstances substantially as hereinbefore set forth.

**72,718.**—EDWARD F. BRADLEY, Birmingham, Conn., assignor to HOWE MANUFACTURING COMPANY, same place.—*Head Roll for Pin Machines.*—December 31, 1867.—The pins are inserted in the perforations of the rotating carrier, and the head finished in passing between the wheels.

*Claim.*—The combination of the two wheels *B C*, having a groove formed in each of their peripheries, and revolving at different surface velocities, when arranged in relative position to the carrying device, substantially in the manner herein set forth.

**72,719.**—E. B. BUTLER, New Britain, Conn.—*Making Hub Bands.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The method herein described of making hub bands; that is to say, take a strip of metal of width equal to that required for the band, and of proper length, welding the two ends of said strip together, and afterwards swaging the same in dies, constructed substantially as set forth.

**72,720.**—GEORGE H. CLARKE, Brooklyn, N. Y.—*Steam Generator.*—December 31, 1867.—The steam from the drum passes through connected spherical chambers within the furnace.

*Claim.*—The arrangement of the series of hollow balls, constructed substantially as described.

**72,721.**—CHRISTOPHER F. CONRAD, Adrian, Mich.—*Wind Worm for Blacksmith's Bellows.*—December 31, 1867.—The air passes through a serpentine channel between the nozzle and the fire to cause a more even blast, and prevent the entrance of gas into the bellows.

*Claim.*—The serpentine wind channel *C B*, constructed and operating in the manner and for the purposes substantially as set forth.

**72,722.**—ROBERT F. COOKE, Newark, N. J., assignor to himself and PEXTON B. W. COOKE, same place.—*Harvester.*—December 31, 1867.—The cutters are pivoted to a fixed and sliding bar, and the latter is reciprocated by a lever actuated by the rotating cam.

*Claim.*—The cam wheels or grooved drum *R*, constructed with inclined and straight surfaces *r r'*, alternately, so that when the inclined surfaces *r* pass the lever motion will be communicated to the knives, and when the straight surfaces *r'* pass the lever the knives will be at rest, substantially as and for the purposes described.

**72,723.**—C. J. CRUM and WESLEY IRWIN, Circleville, Ohio, assignor to C. J. CRUM and JAMES HARSHA, same place.—*Burglar Alarm.*—December 31, 1867.—The stock is attached to the door frame, and the spring-hammer shank enters a groove from which the opening door dislodges it to discharge the cap on the match-lighting nipple. The match lights the lamp.

*Claim.*—First, the combination with the stock *A* and notched flange *a a'* of the hammer *E*, spring *D*, rod *C*, match-lighting nipple *F*, and a screw or other attaching device *K*, substantially as described.

Second, the combination with the parts *A, a, D, E,*

and *F* of the lamp bracket *H* and match holder *J*, substantially as described.

**72,724.**—F. S. DAWES, Hudson, Mass.—*Heel Shave for Boots and Shoes.*—December 31, 1867.—The attaching screws of the curved blade pass through slots in the bridge piece, and allow adjustment of the blade. The guard piece is removable to admit sharpening of the blade.

*Claim.*—First, the combination, with the slotted parts *D D*, of the bridge *A*, screws *d d*, and blade *C*, substantially as and for the purposes set forth.

Second, the combination, with the slotted pieces *D D*, bridge *A*, and handles *B B*, of the blade *C*, guard piece *F*, and screws *d d* and *f f*, substantially as and for the purposes set forth.

**72,725.**—JAMES DAYKIN, Cleveland, Ohio.—*Water Drawer.*—December 31, 1867.—The bucket bottom has a valve, and a metallic spout discharging at one side. The valve is lifted by a bowed lever which is turned inward when sufficiently elevated to discharge the water into the chute.

*Claim.*—The yoke or loop *C* and stem *E*, as arranged in combination with the valve *F* and spout *A*, for the purpose and in the manner substantially as set forth.

**72,726.**—R. EICKEMEYER, Yonkers, N. Y., assignor to EICKEMEYER HAT BLOCKING MACHINE COMPANY, same place.—*Machine for Blocking and Shaping Hats.*—December 31, 1867.—Steam is employed within the banding shell while stretching and blocking, a valve regulating the steam supply. The valve is automatically opened to admit steam within the banding shell when the clamping plates have closed upon the brim, and commenced to draw the side, crown, and top over the banding shell. The valve is held open until the block has been raised to its highest point, or nearly so. The shells vary in size and are supported on a single shaft, a partial rotation bringing another shell into operation. The shaft is tubular and steam openings are arranged therein forming communication between the steam supply and operating shell only, shutting off communication with the other shells.

*Claim.*—First, introducing steam within the banding shell during the operation of stretching and blocking the hat body, substantially as and for the purposes described.

Second, in combination with a banding shell, or a series of banding shells, a valve controlling the steam passage thereto, connected with and moved from the vibrating frame or some other part of the machine, which moves in unison with the holding plates, substantially as described, whereby the valve is automatically opened to admit steam within the banding shell during the operation of stretching and blocking, and closed at other times to prevent the waste of steam.

Third, the combination and arrangement of a series of banding shells upon a wheel provided with a locking mechanism, and organized with respect to the hat block and holding plates, substantially as described, whereby the operator can readily shift the shells to correspond with required changes of size of hats, substantially as set forth.

Fourth, the arrangement and combination of the separate steam passages from the banding shells through the wheel, with the bearing and steam passage through the horizontal shaft on which the wheel of shells turns, substantially as described, whereby the steam is cut off from all the banding shells of the series except the one which is in the proper place to co-operate with the hat block and holding plates.

**72,727.**—ALFRED B. ELY, Newton, Mass.—*Boot and Shoe.*—December 31, 1867.—The counter and heel stiffener is composed of a hard resinous substance, (other than rubber or fiber,) molded by heat and pressure; or it is composed of felt or fabric saturated with a substance which will impart to the article, when shaped by heat and pressure, the proper hardness and elasticity.

*Claim.*—The use of resinous bodies combined with fibrous materials, substantially as described.

Also, a heel stiffener, made of the above-described substances, and formed into shape by means of heat and pressure, substantially as set forth.



Also, a heel stiffener, made of felted or woven fabric, saturated with resinous material, so that the article, when shaped under heat and pressure, shall possess the proper hardness and elasticity, substantially as described.

**72,728.**—GEORGE ERTEL, Liberty, Ill.—*Beater Press*.—December 31, 1867.—The beater is raised by a rope coiled on a flanged pulley upon the sweep shaft and is tripped therefrom by the inclined block. For extreme compression a lever is used which is depressed at each end alternately, the fulcrum being changed from side to side, near its center.

*Claim.*—First, the combination of a compressing and beater press, when arranged substantially as shown and described.

Second, the combination of the driving wheel K, the slotted shaft P, and the tongue y, of a combined compressing and beater press, when constructed and arranged substantially as shown and specified.

**72,729.**—REUBEN FINK, Lancaster, Pa.—*Attachment for Safety Bridles*.—December 31, 1867.—The cheek pieces are attached to curved bars which are drawn through the bit rings when the horse becomes restive, and draw the bit forcibly into the corners of the mouth.

*Claim.*—The lever A, with its eye a, and central pivot b, on which is hinged a curved bearing B, all combined and arranged in the manner and for the purpose specified and shown.

**72,730.**—WILLIAM FOSTER, Greenfield, Ind.—*Gang Plow*.—December 31, 1867.—Two or more pairs of separately pivoted plows are so arranged as to be raised from the ground by the driver. The tongue is pivoted and the side braces for holding it are operated by the feet.

*Claim.*—First, in combination with the pivoted tongue C, the guide straps or bars L, pivoted jaws M M', and treadles N N', substantially as and for the purpose described.

Second, in combination with the treadles N N' and pivoted jaws M M', the spring O and stops P P', substantially as and for the purpose specified.

Third, the upright lever K, in combination with the frame E F f f', and foot board A<sup>2</sup> k, arranged and adapted to be operated substantially as and for the purpose set forth.

**72,731.**—PATRICK H. GRIFFIN, Albany, N. Y.—*Apparatus for Cooling Beer and Other Liquids*.—December 31, 1867; antedated December 14, 1867.—The beer passes downward through a vertical series of chambers, flowing through their foraminous bottoms, and is subjected to a blast of air traversing the chambers. From these chambers the beer passes through a pipe coil. The chambers and coil are enveloped in water which has a continued flow.

*Claim.*—First, the employment of a series of chambers to receive and transmit the liquid to be cooled, in combination with each other, placed one above the other, as described, their floors being perforated so as to permit the liquid to fall in drops from the one to the other, being subjected in each chamber to a blast of air to facilitate cooling.

Second, the combination of an apparatus, as described, with a surface-cooling apparatus, substantially such as the hollow walls, and the coil of pipe, described in the above specification.

**72,732.**—T. W. HAWKINS, New Haven, Conn., assignor to himself and MOSES HAWKINS, Birmingham, Conn.—*Fan*.—December 31, 1867.—The flanged plates are attached to the outside splints, and their flanges rest against the sides of the handle pieces to hold the fan in either its closed or opened position.

*Claim.*—In combination with the several splints B C D &c., and the handles A, the flange plate E, when arranged so as to operate in the manner described.

**72,733.**—HENRY HEIMERLE, Buffalo, N. Y.—*Beer Cooler*.—December 31, 1867.—The beer descends through pipes traversing the tank. The pipes at their ends empty into open troughs.

*Claim.*—First, the combination and arrangement of the upright tank A with the inclined pipes or conductors B, for the purpose and substantially as herein described.

Second, the combination and arrangement of the tank A, conductors B, and open troughs C, constructed as and for the purpose herein described.

**72,734.**—EDWARD HENNESSEY, Washington county, D. C.—*Brick for Curved Masonry Work*.—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The bricks, made of stone or any material, corrugated and tapering, as herein described, for conduits or curved work, as in masonry, to prevent the bursting or collapsing thereof.

**72,735.**—JOHN T. HENRY, Hamden, Conn.—*Sheep Shears*.—December 31, 1867.—The joint is recessed to contain a spiral spring, whose straight ends pass into the shanks, and the tension is regulated by set screws. The bearing of the joint is on the opposite side to the blades, and the axial screw may be tightened to bring the blades more closely together.

*Claim.*—First, the head C D formed upon or attached to the shank of the blades, and constructed relatively to the edge of the blades, so that the two parts C D will bear hard together at the extreme point from the blades, and opening toward the blades so as to be adjusted by the screw H to govern the bearing of the blades upon each other, substantially as herein set forth.

Second, in combination with the blades E F and respective arms A B, the head constructed so as to conceal the spring, substantially as set forth.

Third, in combination with the blades E F and the spring G, the adjusting screws a and b in the arms of the respective blades, so as to operate in the manner described.

Fourth, the link I in combination with the two arms A and B, arranged so as to adjust the opening, substantially as herein set forth.

**72,736.**—GEORGE W. HOSKIN, Philadelphia, Pa.—*Wagon Body*.—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The inclined wagon body D, arranged substantially as and for the purpose herein specified.

**72,737.**—DEAN W. HUTCHINSON, Big Spring, Kansas.—*Four Wheeled Vehicle*.—December 31, 1867.—The fore and rear axles are pivoted to a central reach, and the hounds of the axles have segmental racks engaged together through intermediate spur wheels journaled to the reach. The object is to give ease in turning by causing the axles to assume an opposite inclination to the reach.

*Claim.*—The attachment to four-wheeled vehicles of the cog plates A A A A, the cog wheels B B, the fifth wheels G G, the arms E E E E, the king bolts D D, the strap H, the lock bolts K K, the braces L L L L, combined, constructed, and operated as above described.

**72,738.**—ALEXANDER B. IRVING, Indianapolis, Ind.—*Piano Forte Action*.—December 31, 1867.—The knuckle with which the jack engages to raise the hammer is made a part of a separate elongated butt piece that is carried on the end of an adjustable vibrating arm that is actuated by the key. A short vibrating jack lever is hinged to the butt of the hammer shank, the lower end of which rests on top of the elongated butt piece.

*Claim.*—The repeating arm C attached to the key A, and adjusted by means of the set screws K L, spring I, and set screw J, the butt D attached to the arm C, and jack E attached to the butt piece G of the hammer, the whole constructed and arranged substantially as set forth and described.

**72,739.**—JOHN JOHNSON, Hartford, Conn.—*Constructing Sewing Machine Cases*.—December 31, 1867.—The sides have a panel surrounded by a miter-jointed frame.

*Claim.*—As an article of manufacture, a sewing-machine case, as described, viz: the tongue and groove mitre joints, including panels, substantially as described.

**72,740.**—JOHN L. L. KNOX, Pittsburg, Pa.—*Clinometer and Level*.—December 31, 1865.—Explained by the claim and illustration.

*Claim.*—A combined clinometer, plumb, and level,



having a vertical circular box, with an arrangement of scales so graduated as to give, in connection with one or more index fingers, the amount of deflection of an object from a vertical or horizontal position, in both circular and linear measurement, substantially as above set forth.

**72,741.**—REINOLD LANSTROM, Cincinnati, Ohio.—*Tip for Gas-burner.*—December 31, 1867; antedated December 24, 1867.—Explained by the claims.

*Claim.*—First, the application of soapstone in the construction of tips for gas-burners, when constructed and applied substantially as above described and shown.

Second, a new article of manufacture in the soapstone tips for gas-burners herein described.

**72,742.**—SAMUEL S. LAWS, New York, N. Y.—*Electrical Indicator.*—December 31, 1867.—A wheel having figures upon its periphery is turned by a star wheel upon its shaft. The star wheel is actuated by pawls on armature levers to turn one cog, equal to one figure, at each completion of the circuit through one of the spool magnets. The two magnets are arranged to cause opposite rotation, and either may be connected with the operating key by a switch. The circuit passes through the axis of the key and through numbered buttons upon a disk. The key being brought in contact with a button causes one movement of the numbered wheel, and each time the key comes in contact with a button the wheel is moved one figure, and no more.

*Claim.*—First, an electro-magnetic indicating apparatus or instrument, whose indicating or working device can, by means of a single-toothed wheel and suitable mechanism, such as described, or its equivalent, be moved step by step in either of opposite directions at will, in the manner and for the purposes specified.

Second, the lever G or G<sup>2</sup>, having an armature at one end and a spring pawl J or J<sup>2</sup> at the other, the spring stop pawls K K<sup>2</sup>, the connecting rods M M<sup>2</sup>, and the toothed wheel E, when all combined and arranged together substantially and so as to operate as and for the purpose specified.

Third, the stop pawls K K<sup>2</sup>, when arranged in connection with either one or both of the levers G G<sup>2</sup>, and toothed wheel E, or their respective equivalents, so as to operate substantially in the manner and for the purpose described.

**72,743.**—WILLIAM LEONARD, Boston, Mass.—*Harness Saddle.*—December 31, 1867.—The impervious material is interposed between the cloth and stuffing to prevent moist exudations entering the latter.

*Claim.*—A saddle, having its hair stuffing *d* protected from contact with the cloth *e* by an impervious lining *f*, which is cemented to the inner surface of the cloth, substantially as set forth.

**72,744.**—JOHN MALIN, Bedford, Ohio.—*Cooling Millstones and Curbs.*—December 31, 1867.—A current of air is forced into the space between the millstones and curb to prevent accumulation of moisture.

*Claim.*—The openings E D, diaphragm G, and fan H, all combined and arranged as and for the purpose set forth.

**72,745.**—LORENZO MATT, Boston, Mass.—*Sound Board for Piano Fortes.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The improved sounding board, made substantially as described, viz: of a series of layers of wood, differing in their widths, and tapering in their transverse sections, and laid flatwise on each other, and glued or cemented together with the grain of each one of the series crossing that of the next adjacent one at acute angles, all essentially as hereinbefore described and as represented in the accompanying drawings.

**72,746.**—HEBRON MATTHEWS, South Yarmouth, Mass.—*Kettle.*—December 31, 1867.—The notched brace is opposite the hinge and supports the lid in a partially opened position.

*Claim.*—The combination and arrangement of the notched brace D with the cover B, and the body A of the kettle.

**72,747.**—DUNCAN MCARTHUR, New Haven, Conn.—*Die Stock for Cutting Screws.*—December 31, 1867.—The dies slide in a nearly radial direction, and are moved inward by segmental inclines on the embracing ring.

*Claim.*—The arrangement described of the ring C, with its eams *e* and plato E, combined with the dies *d* and the adjusting rack D, the whole constructed so as to operate in the manner herein set forth.

**72,748.**—SCOVIL S. MERRIAM, New York, N. Y., assignor to himself and DANIEL W. TALCOTT, same place.—*Whip Hanger.*—December 31, 1867.—The levers are pivoted to a bracket plate, and their short ends are forced asunder by the wedge-formed block to bring their other ends together on the whip handle.

*Claim.*—The arrangement of two levers B B, in combination with a wedge-shaped block D, constructed and operating together in the manner and for the purpose substantially as set forth and described.

**72,749.**—PHILIP MILLER, Sharpsburg, Pa.—*Window Shutter.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The construction of a detachable inside window shutter, consisting of a frame *b*, hinged sash or sashes *e*, with removable panels of a translucent fabric stretched or spread over side and end pieces *i i'*, substantially as and for the purposes hereinbefore set forth.

**72,750.**—JOHN F. MORSE, Oshkosh, Wis., assignor to himself and CHARLES G. PAGE.—*Steam Engine.*—December 31, 1867.—The faces of the valve are forced asunder by wedges, which enter wedge-formed cavities between the parts. The wedges are operated by right and left hand screws and a nut.

*Claim.*—First, a balanced oscillating valve, having its face plates *h* and *g* so arranged that as they are worn they may be adjusted by the wedges *o*, constructed and arranged to operate substantially as described.

Second, the wedges *o* and the nut *q*, when constructed and arranged to operate substantially as described and for the purpose set forth.

**72,751.**—PETER H. NILES, Boston, Mass.—*Sewing Guide.*—December 31, 1867.—The guide has an elastic ring securing it to the forefinger, and directs the course of the needle after insertion through the fabric.

*Claim.*—A sewing guide composed of a ring or clasp provided with a rib *c*, substantially as herein described and for the purpose specified.

**72,752.**—WILSON J. ORR, Manorville, Pa.—*Cow Catcher for Preventing Accidents on Railroads.*—December 24, 1867.—The lower frame of the cow catcher sustains a sliding frame, which is projected forward by connection with a rack bar and spur wheel, whose turning mechanism is within reach of the engineer. The frame carries a series of pikes to pierce an animal lying on the track and carry the same.

*Claim.*—The combination, with a locomotive cow catcher, of an interior sliding frame with projecting spikes or points, when constructed and arranged as herein described.

**72,753.**—DOLPHUS D. PALMER, Waltham, Mass.—*Machine for Pegging Boots and Shoes.*—December 31, 1867.—The mechanism is placed in a stock, and embraces means for puncturing the leather, driving the peg and moving forward the stock with each blow of the hammer.

*Claim.*—First, the stock A, as constructed, and the sliding punch B, having a toothed rack *e*, connecting with the pinion *f*, disk *g*, and pitman *h*, for operating the slide D, as herein described.

Second, the movable piece or stock E, pivoted to the handle or stock A, for holding the awl slide or holder D, as also the peg-driving punch H and cutting blade *j*, as herein set forth.

Third, the lever O, pawl P, and guide M, as arranged, in combination with the slide B, for feeding in the strips of peg wood to be cut by the combined



action of the knives *j* and *N*, and driven by the punch *H*, substantially as herein specified.

Fourth, the combination of the stationary block *K*, guide *M*, cutter *N*, with the movable block *E* and knife *j*, substantially as and for the purposes herein set forth.

Fifth, the arrangement of the lever *S*, pawl *u*, spring *t*, and friction roller *s*, as constructed and combined with the plate *Q* and inclined ledge *v* on the sliding punch *B*, so as to operate for spacing the distance between the pegs as they are driven, substantially as described.

Sixth, the gauge *W*, spring lever *X*, point *y*, and index *z*, in combination with the stock *A*, for a hand shoe-pegging apparatus, substantially as and for the purposes herein set forth.

**72,754.**—DANIEL E. PARIS, Troy, N. Y.—*Stove Grate*.—December 31, 1867.—The grate bottom is made in tilting sections, which are turned simultaneously by a single lever.

*Claim.*—First, two grates, lying side by side, having each two outwardly-projecting journals eccentrically attached on either end, at or near their front or back sides, and one or both vibrated horizontally by means of a pronged or double shaker.

Second, an eccentrically-journaled grate, with its rear side lying on the front part of a like grate, and so constructed for dumping that as the rear part of the back grate turns upward, the rear part of the front grate falls downward.

**72,755.**—JAMES PARK, Jr., Pittsburg, Pa.—*Manufacture of Steel and Iron*.—December 31, 1867.—40 lbs. of partially converted iron, containing about 1 per cent. of carbon, is placed in a crucible and melted, when an equal quantity of wrought iron at a white heat is added. The crucible is covered and the contents melted and mixed in the same manner with a like quantity of wrought iron in two other crucibles. This process may be carried to a greater or less extent. The melted steel is then cast into ingots, hammered and rolled.

*Claim.*—Producing cast steel of mild or low temper, or wrought iron, in the manner substantially as hereinbefore described, by first melting partially carbonized wrought iron in the ordinary or any other suitable furnace, and then adding to and melting in it highly heated wrought iron, so as to reduce the percentage of carbon in the mass, and repeating the process if necessary until the carbon is sufficiently reduced or entirely removed.

**72,756.**—THERON E. PLATT, Newtown, Conn., assignor to himself and GEORGE D. LAMBERT, same place.—*Harvester*.—December 31, 1867.—A clutch is thrown in operation by a treadle, and connects the driving power to the mechanism which raises the cutter bar.

*Claim.*—The arrangement of the clutch *H* upon a shaft *E*, and in connection with the cutter bar, so that by means of the said clutch the cutter bar may be raised, substantially as set forth.

**72,757.**—ANDREW J. RAYNER, Buffalo, N. Y.—*Tobacco Cutter*.—December 31, 1867.—The cutter works on a segmental guide, and has two knives for simply dividing a large plug, or for a double action to reduce the same to fine cut, more rapidly.

*Claim.*—First, a tobacco cutting machine having two knives *E* and *F* upon one hinged cutter frame *B*, arranged and operating substantially as herein described and for the purpose set forth.

Second, in combination with the above the guide rail *D* and the projection *C'*, upon the cutter frame *B*, constructed and operating in the manner and for the purpose substantially as described.

**72,758.**—CHARLES REISTLE, Brooklyn, N. Y.—*Caster Stand*.—December 31, 1867.—The casters are held upon the stand by annular base ridges, and by spring catches which embrace their necks.

*Claim.*—As a new article of manufacture, the table caster above described, consisting of the base *a*, the ridges *f*, the standard *b*, and brackets and springs *d*, as specified.

**72,759.**—JAMES O. SMITH, New York, N. Y.—*Lantern*.—December 31, 1867.—The upper ends of

the guard wires have circumferential recesses, and when the heads enter the holes in the cap the necks pass into the slots and serve to secure the cap and guard wires together. The projections on the lower part of the lamp serve as bearings for the base flange, allowing air to pass up between them.

*Claim.*—First, the combination of the guard, having a groove *a* in its upper part, with the top of the lantern, having slotted holes *d*, to receive said guards, as described, said guards being attached to the base of the lantern by soldering or equivalent means, by which combination and construction of parts the guards are firmly secured to the lantern, and without liability of being detached at the top by heat.

Second, the formation of the projections *C* upon the base of the lamp, as described—that is to say, said projections being made a part of said glass body and so formed as to accomplish each of the several results set forth.

**72,760.**—HENRY STEEGER, New York, N. Y.—*Construction of Hot-water Boilers*.—December 31, 1867.—The upper and lower heads are slipped respectively over and into the cylindrical sides, and are secured by circumferential grooves spun in the laps.

*Claim.*—The convex head *b*, secured to the boiler *a* by the ribs and grooves at *c*, in combination with the head *d* setting within the lower end of the boiler, and its flange *i* secured by ribs and grooves at *o*, as and for the purposes set forth.

**72,761.**—ROBERT S. STUBBS, Dover, N. Y.—*Fastening for Bottle Stoppers*.—December 31, 1867.—The metallic yoke half surrounds the bottle neck and has a hook at each end for attachment of the strap which completes the circuit of the neck and passes over the cork.

*Claim.*—The said bottle-stopper fastener, as composed of the curved yoke and the strap, constructed and applied together in the manner and so as to operate substantially as specified.

Also, the arrangement of the yoke and the strap with the neck and cork of a bottle, in the manner substantially as specified.

**72,762.**—CHARLES TAFT, Northbridge, Mass.—*Shingle Carriage*.—December 31, 1867.—The table is adjustable in inclination upon the wheel frame. The truck is supported on four wheels, and runs longitudinally on the sheathing. The wheels on the upper side are smaller than those on the lower, and have pins in their rim to prevent slipping.

*Claim.*—First, a shingle carriage, to facilitate the shingling of roofs of buildings, constructed substantially as shown and described.

Second, the combination with the hinged arms or pieces *E E* of the table *G*, guard boat *H*, and pins *b b*, substantially as and for the purposes set forth.

**72,763.**—JOHN TODD, Bellefonte, Pa., assignor to himself and WILLIAM P. DUNCAN, same place.—*Circular-Saw Mill*.—December 31, 1867.—The frame supporting the ends of the shafts that carry the friction feeding and gidding wheels is so adjusted that the latter may be thrown into or out of action with the drive wheel by the operator. The weighted lever, when uncontrolled, holds both of the former wheels out of contact with the drive wheel.

*Claim.*—In combination with the hinged frame *H* for moving the frictional feed and backing wheels into and out of action with the drive wheel and its shaft, the pivoted weighted lever *K*, jointed to the frame, as described, and its support *M* for holding both of said wheels out of action, substantially as and for the purpose described.

**72,764.**—A. P. TYLER, Cleveland, Ohio.—*Lamp*.—December 31, 1867.—The flame is supplied with air by a system of gears actuated by a spring and operating a fan. The air is received through the sides of the base and passes into the cone.

*Claim.*—First, the globe *A*, as constructed with the conical chamber *D*, tubes *C*, one or more, in the manner as and for the purpose substantially as described.

Second, the herein-described mechanical power or apparatus for producing a current of air, when arranged and constructed as shown and described, in combination with the tubes *C*, chamber *D*, and globe



A, all arranged in the manner and for the purpose set forth.

**72,765.**—FRANCIS N. VIOLET, Fond du Lac, Wis.—*Window Sash Supporter*.—December 31, 1867.—The two serrated cams are engaged together and operate to prevent upward or downward movement of the sash. The cams are operated by a pin moving in a curved slot in the case.

*Claim.*—The two cams *h h* with their cogs or gears *m m*, in combination with the ease and spring, when the whole is constructed and arranged to operate in the manner and for the purpose herein set forth.

**72,766.**—F. WASHBOURNE, New York, N. Y.—*Bolt for Saw Frames, &c.*—December 31, 1867.—The head is made of plate and the shank of wrought metal.

*Claim.*—As a new article of manufacture, a headed bolt, made, as above described, of wrought metal, the head and shank being made in separate pieces, and afterwards brazed or soldered to each other, as specified.

**72,767.**—HERMAN WOCHER and BENENDIKT GEIGER, Philadelphia, Pa.—*Curtain Fixture*.—December 31, 1867.—The hollow counterbalance weight has a friction spring bearing against its guide rod.

*Claim.*—The spring E, in combination with the hollow weight C and guide rod D, substantially as and for the purpose set forth.

**72,768.**—HERMAN WOCHER and BENENDIKT GEIGER, Philadelphia, Pa.—*Curtain Fixture*.—December 31, 1867.—A counterbalance weight is attached to the cord by which the blind is raised. The weight is confined by vertical guides to a straight path.

*Claim.*—First, the combination of the curtain A, roller B, counterbalancing weight E, elevating cord D attached directly to the weight E, and a guide, whereby said weight is confined to a specific path, all arranged to operate substantially as and for the purposes set forth.

Second, the combination with the curtain A and its essential accessories, of a hollow or chambered supporting weight E, adapted to admit of graduation, substantially as and for the purpose set forth.

**72,769.**—EDWARD WRIGHT, Worcester, Mass., assignor to L. J. KNOWLES & BROTHERS, same place.—*Let-off Mechanism for Looms*.—December 31, 1867.—The lay at each forward motion operates on the upper end of the lever, whose lower end is hinged to the pawl working on a ratchet wheel engaging a spur wheel on the yarn-roller shaft.

*Claim.*—The combination with the pawl and lever and springs G, of the guide and feed-finger N mounted upon the lay, substantially in the manner and for the purposes set forth.

**72,770.**—EDWARD P. WOODS and DANIEL SHERWOOD, Lowell, Mass., assignors to WOODS, SHERWOOD & Co., same place.—*Wire Dish Stand*.—December 31, 1867.—The spiral wires are woven upon a series of sections, each having a wire forking radially from the center, then turned downward and rebent to form legs and carried up as supports to the sides.

*Claim.*—First, the arrangement of the bars A, provided with the legs *a* and inclined sides B, substantially in the manner shown and described and for the purposes specified.

Second, the arrangement of the bars A, as described, in combination with the spiral *c*, substantially as described and for the purposes specified.

**72,771.**—WALTER AIKEN, Franklin, N. H.—*Knitting Machine*.—December 31, 1867.—The object of the machine is to enable the ribbed-work heel of a stocking to be finished with plain work in that portion which goes under the foot. By means of the worm gear and its adjustable and stationary studs the length of the plain, and also of the ribbed work, is regulated. The whole mechanism cannot be briefly described.

*Claim.*—The combination of the latch Q and stud *r*, or their equivalents, with the two cam bars D P of the rib and plain work needles.

Also, the combination and arrangement of the swing arm N, or its equivalent, with the frame A,

and its supporting mechanism and cam bar P of the rib needles, the same being to enable such rib needles, with their supporting mechanism and cam bar, to be turned away from the plain work needles, in manner as set forth.

Also, the combination for holding and releasing the shipper shaft, and regulating the length of the plain and ribbed work of a stocking heel, to be produced as described, such combination consisting of the worm V, the worm gear W, its studs and spring, the lever X, its latch *e'*, latch lever *b'*, and spring *d'*, and the bolt *z* and its operative lever *a*; the shipper shaft being provided with a notch or groove, or its equivalent, for reception of the bolt, as set forth.

**72,772.**—HENRY A. ALDEN, Matteawan, N. Y., assignor to NEW YORK RUBBER COMPANY.—*Covering for Foot Balls*.—December 31, 1867.—The bladder is cased in rubber, which may be strengthened by canvas.

*Claim.*—First, a foot-ball composed of a bladder, or its equivalent, capable of being distended by inflation, provided with a separate covering or casing of vulcanized rubber, whether combined or not with a cloth backing, substantially as and for the purposes set forth.

Second, a foot-ball formed of a hollow rubber ball, provided with a suitable inflating apparatus, and covered by an outer casing of vulcanized rubber, with or without a cloth backing, substantially as and for the purposes herein described.

**72,773.**—PETER ANTONIDUS, Freehold, N. J.—*Potato Digger*.—December 31, 1867.—The plow and seat are attached to the axle, and are so arranged as to counterbalance each other. The hounds are hinged to the axle, and the inclination of the plow to regulate the depth of furrow is adjusted by a cam lever fulcrumed on the hounds.

*Claim.*—First, the combination of the plow F, axle B, and hounds D, when the latter are so connected with the axle by hinged joints that the depth of the cut may be regulated without interfering with the horizontal position of the hounds, substantially as set forth.

Second, the combination of the plow F, bar H, axle B, hounds D, plate K', and lever K, constructed and arranged substantially as set forth.

Third, the combination of the plow F, bar H, axle B, hounds D, and set screw L, constructed and arranged substantially as and for the purpose set forth.

**72,774.**—MORITZ AUGENSTEIN, New York, N. Y.—*Spirit Meter*.—December 31, 1867.—Explained by the claims and illustration.

*Claim.*—First, the horizontal measuring drum E, containing the chambers G G G, each being constructed and arranged upon the shaft *d*, in combination with the semi-circular tube *c*, or any equivalent therefor, in the manner and for the purposes substantially as herein described and set forth.

Second, the vertical chamber B and vertical tube C, arranged and combined by means of the horizontal tube *a*, or any equivalent therefor, in the manner and for the purposes substantially as herein described and set forth.

Third, the vertical tube D, containing the spirit strainer *b*, arranged therein and having at or near its lower end the horizontal or semi-circular tube *c*, and which tube D is so arranged, in combination with the vertical tube C, as to receive the spirits or liquor passing over and through the spout *l* into or near the upper end thereof, in the manner and for the purpose substantially as herein described and set forth.

Fourth, the channel or trough *o*, and vertical tube *p* connected therewith and extending to the receiving chamber I, and the brushes *h h* arranged upon the end of the measuring cylinder E, and combined and operated in the manner and for the purposes substantially as herein described and set forth.

Fifth, the discharging chamber II, combined with the horizontal measuring drum E, with opening T arranged above the discharging pipe or tube, in the manner and for the purposes substantially as herein described and set forth.

Sixth, the combination of the horizontal measuring drum E with the registering device J, in the manner and by the means substantially as herein described and set forth.

Seventh, the receiving chamber I, in combination



with the discharge tube *n* and with the door K, each being arranged in the manner and for the purposes substantially as herein described and set forth.

Eighth, the meter frame or box *o* with the top L, having thereon the tongues P P, extending around the top of said box *o*, and firmly secured thereto by means of the screw pins or bolt *k*, having an opening in each of the respective heads thereof, so as to receive and pass through the same some suitable ribbon or cord, so that the same may be sealed with government seal, in the manner and for the purposes substantially as specified.

Ninth, the conducting of spirits or liquor, after the same shall have been measured in the manner substantially as aforesaid, from the said chamber H into the receiving chamber I, so that the average quality thereof may be ascertained for any given time of the operation of manufacturing of spirits or liquor, in the manner and by the means substantially as herein described and set forth.

**72,775.**—C. AULTMAN, Canton, Ohio.—*Harvester Rake*.—December 31, 1867.—The rake has revolving motion communicated to it by the rotating shaft, and has irregular vertical movement upon its toggle connections by the fixed cam track and spring.

*Claim.*—The combination of the rake stale, linked to a revolving post, with a pivoted arm and roller, that are operated by a cam way and controlled by a spring, for the purpose of giving said rake a motion along or near to the sides and ends of an oblong or irregular-sided platform, in addition to its circular motion, substantially as described.

**72,776.**—BRACKET H. BADGER, New York, N. Y.—*Device for Holding Glasses*.—December 31, 1867.—The glass containing freezing or heated liquid is grasped between the fingers of the spring jaws.

*Claim.*—The device for holding glasses, consisting of the jaws A B, knob C, ring *f*, fingers *a b*, spring *c*, wires *d*, provided with hooks *e*, substantially as and for the purposes set forth.

**72,777.**—CHARLES E. BAILEY, Springfield, Mass., assignor to ALLEN PATENT FIRE-ARMS MANUFACTURING COMPANY, New York, N. Y.—*Altering the Caliber of Musket and other Gun Barrels*.—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The insertion of an inside tapered tube A in a seat formed for it by boring out the barrel B of a gun or rifle in such a manner that it tapers inside from breech to muzzle, and corresponds with the outside tapered surface of the tube A, and firmly securing the latter in place by brazing at the muzzle and other parts, substantially as and for the purpose described.

**72,778.**—D. B. BAKER, Rollersville, Ohio.—*Clutch for Operating Horse Hay Forks*.—December 31, 1867.—The clutch hooks are intended to take over a beam, and are drawn in by the hook at the lower side of the toggle levers. When the pivot rod at the upper end of the staff is withdrawn to change the point of bearing, the clutch is freed.

*Claim.*—First, the combination of the pivoted bars P P, supporting rod J, and stop R with each other and with the short arms of the clutch A A, as a support for said clutch, and also to produce an automatic action, substantially as and for the purpose specified.

Second, the hook *d*, in combination with the above, so arranged that when the clutch is supported by means of the rod J the weight or draft at the hook *d* will always swing the long arms of the clutch A A in one direction, which, when being arrested by the stop R, leaves one arm in a vertical position, so as to facilitate the process of changing the point of bearing, which produces an automatic action, substantially in the manner specified.

**72,779.**—L. J. M. BAKER, Enon, Ohio.—*Carriage Clip*.—December 31, 1867.—The pivot bolt of the thill iron passes through the coupling plate on both sides and is engaged by the clip hooks. The rear of the coupling plate is held down by a spring catch.

*Claim.*—The combination of the shaft iron F, plate C, bolt E, and hooks B', substantially as and for the purpose set forth.

Also, the combination of the plate C and spring D, substantially as and for the purpose set forth.

**72,780.**—J. T. BALTIMORE, Marble Rock, Iowa.—*Cultivator*.—December 31, 1867.—The inner plow standards are pivoted and have lateral movement by treadles. The plow frame is vertically adjusted by a lever engaged by a ratchet rack and pawl.

*Claim.*—First, the combination of the beams G, pivoted at their front ends to the arms E of the frame C, and passing through the slotted arms F, with the beams H pivoted to their inner sides, substantially as described.

Second, the combination of the elbow levers L, cross bars M and K, with the standards I, connected to the beams, and arranged for operating the shovels, substantially as described.

**72,781.**—HOLLIS BARR, Brecksville, Ohio.—*Sheep Shearing and Tagging Table*.—December 31, 1867.—The side boards are supported on an X-frame and have canvas stretched between them. The adjustable arms are pivoted to the side boards, and have slots through which the cords are passed which serve to secure the feet of the sheep.

*Claim.*—The adjustable arms E E, having the cords *f f* attached in the manner described, in combination with the shearing and tagging table, the several parts being constructed and operating in the manner as and for the purpose set forth.

**72,782.**—CHARLES B. BENNETT, Amboy, Ill.—*Clothes Dryer*.—December 31, 1867.—The rack may be folded in a lengthened, narrow form for putting away; may be made to assume form for support of a coat in an extended position, or may have horizontal extension.

*Claim.*—The combination of the standards *a* with the shears *b* and bars *c*, substantially as described and shown by the specification connected herewith.

**72,783.**—JACOB BERNHEISEL, Sr., Green Park, Pa.—*Combined Corn Sheller and Separator Feeder*.—December 31, 1867.—The ears roll around between the ribbed roller and the yielding concave. The cobs are discharged at one place and the corn drops upon the riddle and is subjected to a blast from the fan.

*Claim.*—First, the feeder J, with the grate L, as combined, when constructed and operating as herein described and for the purposes set forth.

Second, the combination of the grated concave N with its spiral springs P and sieves E and G, when constructed and operating as herein described and for the purposes set forth.

Third, the feeder J, grate L, concave N, springs P, and plate R, when arranged and combined with the cylinder M, sieves E and G, and fan B, as herein described and for the purposes set forth.

**72,784.**—WILLIAM BISBEE and FLEMING G. HEARN, Yreka, Cal.—*Adjustable Hasp and Hook for Doors*.—December 31, 1867.—The hasp is extensible to suit variation in the door from rain or other causes, and has a double-ended hook to engage the staple, when used with a right or left opening door.

*Claim.*—First, the spring C, in combination with the box hasp B, for self-adjustment in contraction and expansion of doors, &c., substantially as above set forth and described.

Second, the said spring C, in combination with the adjustable hook F and hasp B, substantially as and for the purpose above set forth and described.

**72,785.**—F. A. BLAETTERLEIN, West Meriden, Conn.—*Device for Drawing Wicks through Burners*.—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The strap A, doubled upon itself to form two sides, with the teeth *a* upon their lower ends, when such sides are provided with one or more rows of perforations *b*, for engaging with the ratchet wheel in the burner, whereby the wick is drawn through the latter, as herein shown and described.

**72,786.**—LYMAN W. BLAKESLEE and ALGERNON D. SMITH, Cincinnati, Ohio.—*Burglar Alarm*.—December 31, 1867.—The alarm case is permanently attached to the door, and the detent wire projecting



from one side of the case takes against a catch secured to the jamb in such manner that an attempt to open the door frees the detent. A hook holds down the latter when unset.

*Claim.*—The combination, with the alarm A and the rod or trigger E, of stationary curved tongue or catch G and hook H, all applied and operating in the manner and for the purpose set forth.

**72,787.**—JACOB BLANK, Cuyahoga Falls, Ohio.—*Sewer Pipe Machine.*—December 31, 1867.—The jointed knife is carried on an axial spindle, which is rotated by a winch and serves to cut the cylindrical pipe into lengths. The joint allows the knife to be turned out of the course of the clay.

*Claim.*—The jointed knife or cutter L, when arranged and operated by the spindle J, pinions K N, in combination with the die and cylinder A, for the purpose and in the manner substantially as described.

**72,788.**—CHARLES D. BRAINERD, Danville, Vt.—*Bag Holder.*—December 31, 1867.—The spring bars have at their upper ends cross pieces, to which bows are attached; the bows pass beneath the seam and sustain the bag beneath the hopper. The spring bars are drawn together by a toggle and treadle to release the bag. The frame is vertically adjustable.

*Claim.*—The combination of the spring bands L, secured at one end to the sliding frame C<sup>2</sup>, jaws M, eyes N, rods O and Q, and treadle R, all arranged and operating as herein described for the purpose specified.

**72,789.**—AUGUSTUS F. H. BRAUN, San Francisco, Cal.—*Truss for Hernia.*—December 31, 1867.—The pressure of the pad is regulated by a nut which turns on the screw rod connected to one end of the bell crank by which the pad is fixed to its support. The rod is surrounded by a spiral spring, one end of which rests on a fixed abutment through which the rod slides, and the other end against the nut.

*Claim.*—The screw a, having its bearing against the lever D, the spiral spring d, through which the screw passes, and the nut b, for regulating the pressure of the pad, in combination with the frame C and axis D, substantially as and for the purpose described.

**72,790.**—GEORGE B. BRAYTON, Boston, Mass., assignor to himself and J. W. HOARD, Bristol, R. I.—*Making Eyelets.*—December 31, 1867.—The eyelets are made from sections of pipe, to insure equal thickness of metal and strength at the ends.

*Claim.*—As a new method of manufacturing eyelets, the cutting of sections from a metal tube and then forming these into shape, substantially as described.

**72,791.**—ASA T. BROOKS, New Britain, Conn.—*Door Bell.*—December 31, 1867.—The cams admit of vibration, so that as soon as their toes have passed the heel of the hammer lever they shall allow the same to move inward in striking the bell.

*Claim.*—The slotted hub plate a, vibrating cam c, cap n, actuating spindle b, with the bell plate and striking mechanism, substantially as and for the purpose described.

**72,792.**—ARTHUR W. BROWNE, Brooklyn, N. Y., assignor to himself and CHARLES R. SQUIRE, New York, N. Y.—*Mechanical Movement.*—December 31, 1867.—The driving plate being mounted on and operated by the cams, does not revolve or roll into gear like an ordinary wheel, but has an eccentric movement imparted to it by the rotating cams, which cause its teeth to slide into gear with the revolving wheel on one are, while the same movement disengages them from the other. This movement continues all round the wheel and a differential motion is obtained, the power derived being proportioned to the variation in the relative number of teeth of the two gears.

*Claim.*—First, the wheel A, plate A<sup>1</sup>, shafts S<sup>1</sup> S<sup>1</sup>, and cams C C, or their equivalent, arranged to operate together in the manner and for the purpose substantially as described.

Second, the plate A<sup>2</sup>, wheel A<sup>3</sup>, pins P P P P, and ribs I I, arranged to operate together in the manner and for the purpose substantially as described.

**72,793.**—NELSON H. BUNDY, New York, N. Y., assignor to himself and E. PHILBRICK, same place.—*Boiler Water Gauge.*—December 31, 1867.—The three-way cocks afford means for shutting off communication with the boiler, and for giving either the valve chamber or the gauge direct communication with the boiler. When communication is established through the valve chamber, and the glass is broken, the ball valves prevent escape of water and steam.

*Claim.*—The combination of the automatic valves F F', constructed and operating substantially as described, with the three-way cocks or valves E E', controlling passages arranged substantially as described, for action in concert, when required, with a blow-off cock m, essentially as herein set forth.

**72,794.**—S. G. CABELL, Quincy, Ill.—*Preventing Incrustation of Steam Boilers.*—December 31, 1867.—A conducting wire from an insulating pin within the boiler is passed beneath the crown, and thence upward in the steam dome to the orifice of the steam pipe, where it is joined by another wire from the front of the boiler, which is also insulated by a pin. From the dome the wire passes along the steam pipe to the throttle valve stem. The wire is insulated from the boiler shell and steam pipe by glass sleeves. The wire has metallic points attached for collection of electricity from the steam. A spiral wire brush within the boiler passes through an insulating packing box, and is connected with the conducting wire. By the rotation of the brush the scale is forced to the mud drum, and by connection with the conductor the electricity is exhausted.

*Claim.*—First, the application to steam boilers of an electrical conductor arranged to convey the electricity from within the boiler or steam space to the exterior of the boiler, said conductor being insulated where it passes through the shell of the boiler, substantially as described.

Second, in combination with an electrical conductor, arranged as described, the use of permanent magnets, located within the boiler, substantially as set forth.

**72,795.**—JAMES W. CAHOON, Philadelphia, Pa., assignor to BURGESS B. LONG, same place.—*Cart.*—December 31, 1867.—A transverse cam shaft is fixed beneath the body of the cart, and before the axle, and by turning the shaft the cams are made to elevate the forward end and relieve the horse from the additional weight incurred in descending a hill. The body of the cart is locked in this position by another cam. The brake is connected to the tilting apparatus so that it is applied simultaneously with the operation of the latter.

*Claim.*—The employment of lifting cams or eccentrics to elevate the forward end of a vehicle, substantially as and for the purpose described.

Also, as a locking device for the forward end of a cart or other vehicle, a cam or eccentric, and a connecting rod or strap, substantially as shown and described.

Also the combination, with a cart tilting device, substantially as shown and described, of a brake, as and for the purpose set forth.

**72,796.**—JAMES H. CARKEET, Montgomery, Ala.—*Anti-friction Axle and Journal Box.*—December 31, 1867.—The journal has a series of concentric cylindrical tubes between which Babbitt metal is run.

*Claim.*—The application of hollow cylinders to the relief of friction, as above substantially described and set forth.

**72,797.**—HENRY CARPENTER, New York, N. Y.—*Form Block for Shaping Baskets.*—December 31, 1867.—The block is bisected, and is expanded by a screw crank.

*Claim.*—A form block for shaping or manufacturing peach or other conical baskets, composed of two parts, one fixed and the other movable, connected by a hinge, and arranged to operate substantially as shown and described.

**72,798.**—E. H. CHAPMAN and T. M. HAMMETT, Philadelphia, Pa.—*Bath Boiler.*—December 31, 1867.—The opening through the boiler bottom communicates with the lower part of the water back of the fireplace, and a return pipe passes from the upper part of the water back and discharges through a vertical pipe into the boiler. The water is received under



pressure through a pipe ascending a short distance in the boiler, and is discharged to the bath tub through a pipe ascending to the upper portion of the same.

*Claim.*—The vertical boiler A, having internal pipes *a c* and *d*, and an opening *i*, arranged in the manner and for the purpose described.

**72,799.**—CASTLE CHURCHILL, New Hartford, Iowa.—*Combined Cultivator and Seeding Machine.*—December 31, 1867.—One of the heads of the seed-distributing device is keyed on the shaft, and the other slides thereon and is adjusted by a lever which extends upward by the side of the hopper. Plates extend radially from the shaft, and enter slots of the sliding head. The seed is distributed broadcast by a rotating ribbed disk at the bottom of the spout.

*Claim.*—The seed-distributing device, composed of the plates *b*, fitted between the fixed and movable heads *a\** on shaft F, in combination with the hopper I and the scattering wheel K, on shaft J, and the spout or trough H', all arranged for joint operation, substantially in the manner as and for the purpose set forth.

**72,800.**—EBEN M. COFFIN, Woburn, Mass.—*Swift.*—December 31, 1867.—The swift is clamped to the table, and its arms may be swung up to receive any sized skein.

*Claim.*—The improved swift, as made of the two forked arms A A and the two clamps B C, arranged and combined substantially in manner as specified.

**72,801.**—JOHN S. COFFMAN, Greenville, Ind.—*Rotary Cranc.*—December 31, 1867.—The barrel shaft has a screw thereon, which engages the sliding guide, to coil the cord fairly upon the said barrel.

*Claim.*—First, the axle C, having on it a screw thread and the nut D, as a guide for the rope F, substantially as shown and described and for the purposes set forth.

Second, the rotating windlass frame B, in combination with the wheel W, axle C, nut D, and stand A, substantially as shown and described and for the purposes set forth.

**72,802.**—RICHARD COLLINS, Chicopee, assignor to AARON G. LORD, Springfield, Mass.—*Breast Pad.*—December 31, 1867.—The rigid back holds the pad in the required place and form.

*Claim.*—First, an inflatable pad, having a rigid base and a flexible front, substantially as herein described.

Second, an inflatable dress-fitter or pad, having a rigid base and a flexible front, neck *c*, and the inflating tube *i*, all constructed and operating substantially as and for the purposes herein set forth.

**72,803.**—LOUGHLIN CONROY, New York, N. Y., assignor to himself and TRISTRAM DODGE VANDERVEER, same place.—*Breech-loading Fire-arm.*—December 31, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the breech block, hammer, trigger, and trigger guard, hung upon a common center pin, when the trigger guard is so constructed in connection with the holding or recoil block as to operate thereon and on the breech block, substantially as and for the purpose described.

Second, the combination of the hammer with the trigger, when hung upon a common center pin and arranged to operate in connection with a spring, or its equivalent, substantially as described.

Third, the cartridge retractor, formed of two parts R and T<sup>2</sup>, the latter pivoted at its forward end to the center, or nearly so, of the part R and its rear end pivoted to the upper and forward portion of the breech block, the part R provided with a cam upon its forward end corresponding to a suitable notch cut in the under side of the barrel, all constructed and operating as herein shown and described.

Fourth, the arrangement of the recoil block M with its curved arm, in combination with the spring *b*<sup>3</sup>, by means of which the breech block is supported and the guard lever kept in position when the breech is closed, as herein shown and described.

Fifth, the hook *b* attached to the lever guard, in connection with the pin *a*, by means of which a drop motion is obtained at that point, so that when the lever guard is pulled downwards to open the breech it

comes in contact with the curved arm of the recoil block M, and by the time the hook *b* catches upon the pin *a* the recoil block is raised sufficiently to permit the breech block to pass under it, the breech being opened by continuing the pull on the lever guard, as herein shown and described.

**72,804.**—PETER CONVER and SAMUEL CONVER, Yates City, Ill.—*Fruit Picker.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The pectinated crown *d* and body A, as formed and constructed, in combination with handle D and bag C, when all are arranged in the manner herein set forth and described.

**72,805.**—G. E. CONWELL, Knoxville, Iowa.—*Bee-hive.*—December 31, 1867.—The base contains moth chambers, one of which is entered from the outside and the other from the floor of the hive. The chambers communicate with the hive through screens which do not allow passage to the moths. Access is gained to the chambers by drawers.

*Claim.*—First, the under section A, forming a base for the hive, and provided with the drawer D opening at either side, and the drawer E opening at the back, said section having projecting inclined front with opening *x* and screen *b*, the whole constructed and used in the manner and for the purposes set forth.

Second, the combination of the sections A B C with their drawers, honey frames and boxes, provided with their communicating spaces and ventilation, their several parts constructed, arranged, and used in the manner and for the purposes specified.

**72,806.**—THOMAS V. COOK, Lanesboro', Pa.—*Truck for Transporting Stone.*—December 31, 1867.—The shoe forms the lower part of the upcurved bow of the land boat for hauling stone. It has ribs and bolts for attachment of the planks composing the main portion of the boat.

*Claim.*—First, a metallic shoe *s* with front and back wings or projections, or their equivalent, bent so as to form an angle with each other, or to form a bend, substantially as shown and described and for the purposes set forth.

Second, the shoe *s*, in combination with the planks C D and F, substantially as shown and described and for the purposes set forth.

Third, a stone-boat, composed of the shoe *s* and any planking, substantially as shown and described and for the purpose set forth.

**72,807.**—R. H. COOPER, St. Louis, Mo.—*Window Sash Stop.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The bolt socket A, whole as to its top, and provided with no slot anywhere except at its end, and having an interior stay or guide partition *a*, when combined and arranged with the spring bolt C, having a stop pin *c* and tongue *c*<sup>1</sup> arranged to slide in the notch *c*<sup>2</sup>, substantially in the manner set forth.

**72,808.**—WILLIAM COURTNEY, Richview, Ill.—*Bee-hive.*—December 31, 1867.—The top and front are hinged. The holes in the sides have buttons with a perforation at each end, one of which is gauze-covered and the other open. The honey frames are separated by perforated tin plates.

*Claim.*—First, in combination with the frames forming the main hive H, as described, the perforated comb dividers I, constructed and arranged substantially as set forth.

Second, the combination of the main hive H and surplus-honey box G, when respectively constructed and arranged within the external case, to operate in conjunction, substantially as set forth.

Third, the combination of the main hive H, surplus-honey box G, and perforated cover F, arranged in relation to one another and the external case, substantially as and for the purpose set forth.

Fourth, a bee-hive, constructed with the parts A B C D E F G and H, arranged substantially as set forth.

**72,809.**—HUGH H. CRAIGIE, New York, N. Y.—*Supply Valve for Water Closets.*—December 31, 1867.—When the valve is raised to admit the water to the basin it fills the upper chamber, from which it gradually runs out, allowing the valve to close.



**Claim.**—The water chamber *o*, in combination with the valve *e*, when said water chamber *o* is placed on the supply side of the valve and arranged substantially as specified, so that the water is ejected from said chamber as the valve closes, for the purpose specified.

Also, a diaphragm valve 3, placed between a moving piston *k* and the valve *e*, to be controlled substantially as set forth.

**72,810.**—HUGH H. CRAIGIE, New York, N. Y.—*Water Supply for Water Closets.*—December 31, 1867.—The cistern has a water-way in the bottom covered by a plate introduced from above, and to this water-way the valves are applied. The service box is introduced within the cistern and applied in connection with the water-way to receive the sudden dash of water and allow it to run gradually to the closet.

**Claim.**—First, a water-way *b*, formed in the bottom of the cistern, between the inlet valve *e* and the outlet pipe *c*, in combination with a covering plate, introduced substantially as set forth.

Second, the valve *e*, seat 5, and supports, constructed as specified, in combination with the cistern *a*, to which it is attached by the ends passing under the cleats 6, as set forth.

Third, the service box *f*, applied inside the cistern and rising above the bottom thereof, in combination with the supply valve *e*, substantially as and for the purposes set forth.

Fourth, the service box *f*, attached as set forth, in combination with the water-way *b* and supply valve *e*, as and for the purposes specified.

Fifth, the adjustable arm *k* and bracket *l* for the fulcrum of the lever *g*, in combination with the valve *e* and cord or wire, substantially as and for the purposes set forth.

Sixth, the arm *p* extending from the lever *g*, in combination with the valves *o* and *e*, as and for the purposes specified.

Seventh, the tube *i*, passed through the bottom of the cistern and secured by a flange and nut, in combination with the lever *g* and valve, as and for the purposes set forth.

Eighth, the supply valve or cock *r*, placed in the bottom of the cistern below the water, in combination with the lever *t* and float *u* adjustable on its stem, as and for the purposes set forth.

**72,811.**—CYPRIAN U. CRANDALL, Galesburg, Ill.—*Corn Harvester.*—December 31, 1867.—The lodged stalks are raised by the conical frames, and carried by the rotating horizontal sprocket wheels to the rollers by which the ears are forced off. The ears are carried by a conveyer to the box of an attending vehicle.

**Claim.**—First, constructing a corn harvester or picker with feelers or conveyers *A A*, for raising the fallen stalks of corn to an upright position, substantially in the manner as described.

Second, the combination of the gatherers *B B* with the feeler or conveyers *A A*, substantially in the manner and for the purpose as herein described.

Third, the construction and arrangement of the rollers *C' C C*, substantially in the manner and for the purpose as herein described.

Fourth, the arrangement of the rubber spring *e* with the rollers, when the rollers are constructed and arranged substantially in the manner and for the purpose as herein described.

Fifth, the wires or rods *d d*, as arranged, substantially in the manner and for the purpose as herein described.

Sixth, the arrangement of the endless carrier *D* with the rollers, when the rollers are constructed and arranged substantially in the manner and for the purpose as herein described.

Seventh, constructing a corn harvester with a swinging carrier *I*, substantially in the manner and for the purpose as herein described.

Eighth, the adjustable tongues or poles *M M*, handles, upright bars *N N*, and rods *O O*, substantially in the manner and for the purpose as herein described.

Ninth, the feelers or conveyers *A A*, rollers *C' C C*, spring *e*, wires or rods *d d*, carriers *D* and *I*, and poles *M M*, all as arranged and combined, substantially in the manner as described.

**72,812.**—C. CUSTER, Philadelphia, Pa.—*Millstone Bush.*—December 31, 1867.—Explained by the claims and illustration.

**Claim.**—First, the millstone bushing, constructed as described, consisting of the segmental wedges *C*, having chamber *a* in the upper ends, placed in the four corners of the shell *B*, with their concave faces fitting against the spindle, and supported by the adjustable radial plates *b* upon the under side of said shell, and adjusted by the reverse wedges *D* fitting against the wedges *C* in the same radial recesses, and adjusted from the under side by means of the screw bolts *e* and nuts *e*, as herein described for the purpose specified.

Second, the combination and arrangement of the hollow wedges *C*, reverse wedges *D*, radial slides *b*, screw bolts *e*, shell *B*, follower *h*, and chamber *g*, as herein described for the purpose specified.

Third, the radial slotted sides *b*, in combination with the hollow segmental wedges *C*, when such slides support said wedges by passing across their inner corners, as herein set forth for the purpose specified.

**72,813.**—JOHN P. DAUTH, Reading, Pa.—*Eave Trough.*—December 31, 1867.—The frame is attached by its upper part to the roof, and has a bolt passing through its ends by which it is adjusted more or less tightly on the trough.

**Claim.**—The holder, represented in Figs. 1 and 2, intended to pass around the trough, and hold it tightly or loosely, as it may be wanted, and from which the trough can be removed and replaced at will, by taking out the bolt *A*, Fig. 1, or detaching at *A*, Fig. 2.

**72,814.**—JOHNSON C. DAVIS, Montgomery, Ala.—*Tester Frame for Bedsteads.*—December 31, 1867.—The staff has a rectangular, lower end, which enters a suitable socket in its foot plate and supports a ring, which, like the staff and connecting arms, is tubular.

**Claim.**—The tester frame herein described, consisting essentially of the ring *b*, transverse arms *e*, and staff *a*, the latter, at its upper end, forming a rigid connection between the ring and arms, and thereby a rigid support for the ring, in the manner described.

**72,815.**—ALFRED DAWES, Hudson, Mass.—*Adjusting Knobs to Spindles.*—December 31, 1867.—The spindle shanks are made polygonal and have a screw-thread worked on their salient parts. The screws on the shanks differ in pitch so that the handles may be brought to exactly proper position when the screws which pass through the necks of the knobs engage the longitudinal grooves in the spindle shanks.

**Claim.**—First, knobs and spindles, screwing the one into the other by screw-threads of different degrees of fineness on the two ends.

Second, in the shank of door knobs, that screw upon their spindles, the making two or more screw holes for the reception of the set screws, so placed in the circumference that no two are opposite, at the same time, to the faces of the spindles.

Third, the making one end of the spindle for door knobs with a different number of sides from the other.

Fourth, the combination of door knobs and spindles, screwing the one upon the other, with the spindle having a different number of sides, and screw-threads of different degrees of fineness in the two ends, and having one, two, or more screw holes in the shank of the knobs to receive the hold-fast screws, all for the purposes and in the manner substantially as described.

**72,816.**—H. G. DAYTON, Maysville, Ky.—*Alcohol and Spirit Still.*—December 31, 1867.—Explained by the claims and illustration.

**Claim.**—First, carrying the liquid, with which a still is to be supplied, through the condensing vessel *B*, for the purposes of moderately heating it by the rising vapors, and for thus preparing it for the still, substantially as herein shown and described.

Second, providing the vessel *B* with a crown plate *C*, by which the heavy vapors are separated from the spirits, and by which the condensed spirit are prevented from falling back into the still, substantially as herein shown and described.

Third, the annular trough *b*, when formed on the inside of the vessel *B*, in combination with the crown plate *C*, all made and operating substantially as and for the purpose herein shown and described.

Fourth, the vessel *B*, provided with a trough *b*,



crown plate C, cooling coils G, and discharge pipes *d* and *g*, all made and operating so that the finest are separate from the medium spirits, as set forth.

**72,817.**—JAMES H. DILKS, New York, N. Y., assignor to C. T. REYNOLDS and COMPANY, same place.—*Making Soluble Blueing for use in Laundries and Bleaching.*—December 31, 1867.—In water, 100 galls., is dissolved ferro cyanide of potassium, 100 lbs.; to which is added sulphuric acid, 40 lbs. Next, in nitric acid, 40 lbs., dissolve iron, 10 lbs. These mixtures are then added together and boiled until a violent action takes place. It is then washed free from acid, pressed and dried for use.

*Claim.*—The process, substantially as above described, of making soluble Prussian, Paris, or Chinese blue in lumps or powder.

**72,818.**—JAMES H. DILKS, New York, N. Y., assignor to C. T. REYNOLDS, and Co., same place.—*Lump Blue for use in Laundries and Bleaching.*—December 31, 1867.—Soluble, powdered, laundry blue is moistened with water, pressed into cakes and dried.

*Claim.*—As a new article of manufacture, a soluble blue in lumps, made substantially as above described.

**72,819.**—ELLIS W. DIXON, Forest Grove, Oregon.—*Washing Machine.*—December 31, 1867.—The dasher oscillates over the transversely ribbed bottom, and presses the clothes against it and the horizontally ribbed ends.

*Claim.*—The open dasher, consisting of the cross-bar D, side pieces *a*, and slats *b*, in combination with arms C, shaft B, frames F, cross-bars *d*, uprights *b*, box A, and blocks E, all arranged and operating as described.

**72,820.**—THOMAS DOANE, Boston, Mass.—*Air Pump.*—December 31, 1867.—The cylinder head has a recess of greater diameter than the bore of the cylinder, and in this recess the eduction valve plays, being guided by a stem proceeding from its center. The piston has disk valves, and reciprocates in an open-bottomed cylinder.

*Claim.*—The eduction valve D, arranged to yield and operate substantially as described, in combination with a piston C and cylinder F.

**72,821.**—LOUIS A. DOCHEZ, New York, N. Y.—*Axle Box.*—December 31, 1867.—Explained by the claims and illustration.

*Claim.*—First, the arrangement in the axle box A of the concave false bottom F, having central opening vessel H, oil chamber G, pads J, and wicks I, as herein described for the purpose specified.

Second, the vessel H fitted through a hole in the false bottom F into the oil chamber G and provided with holes near the upper edge, made and arranged as described for the purpose of collecting the drippings from the axle, and of separating the dust and impurities from the oil.

Third, the lubricating pads J secured to concave blocks K, which are provided with stems or ribs *c* guided in inclined grooves, substantially as and for the purpose herein shown and described.

Fourth, an auxiliary oil or grease reservoir M arranged above an axle in a journal box, and provided with a fusible plug which will melt by the heat of the axle, when the same is no more supplied with lubricating substance, as set forth.

Fifth, the oil chamber G, vessel H, wicks I, pads J, and blocks K, when arranged as described, in combination with the perforated block L, hollow cover C of an axle box, and with the plug *e*, which is soluble by the heat of the axle, when the same is no more supplied with oil, all made and operating substantially as herein shown and described.

Sixth, the plate E E', when arranged as described, and when combined with the spring *a*, grooved axle-box A and axle B, all made and operating substantially as herein shown and described.

**72,822.**—SILAS DODSON, Jersey City, N. J.—*Portable Mill.*—December 31, 1867.—One stone is adjustably secured to the bars connecting the geared disks. The other stone is carried on the horizontal shaft passing through the eye of the former stone and the tubular trunnions of the frame supporting it.

*Claim.*—The arrangement of the burr N adjustably

secured to the cross bars H of the toothed disks G, revolving in one direction, and the burr O upon the longitudinally adjustable shaft B revolving in independent bearings in the opposite direction, said shaft carrying the adjustable conveyers S, as herein shown and described.

**72,823.**—WILLIAM M. DOTY, New York, N. Y., assignor to R. C. BROWNING, same place.—*Clothes Pin.*—December 31, 1867.—Explained by the claims and illustration.

*Claim.*—First, a clothes pin composed of a combined hook and wedge, arranged for operation substantially as herein described, so that by forcing down the wedge the rope or line upon which the hook is placed will be jammed and held tightly between the said wedge and the hook, as and for the purposes set forth.

Second, the combination with the slotted wedge of the skeleton wire hook, having the ends which straddle the wedge united by a strip or plate, fitting and capable of sliding within the slot in the said wedge, substantially as and for the purposes set forth.

**72,824.**—EZRA DURAND, Norwich, Conn.—*Dulcimer.*—December 31, 1867.—The sound post is perforated to allow the air to pass through. The bridges are so arranged that certain of the strings are more elevated than others, to enable them to be readily distinguished.

*Claim.*—The combination of the perforated sounding post E, perforated sounding board C, perforated center bridge I, and notched bass bridge G, the whole constructed substantially as herein described for the purpose specified.

**72,825.**—WILLIAM A. EARSEMAN and ROBERT W. GRAY, Pittsburg, Pa.—*Apparatus for Carbureting Coal Gas.*—December 31, 1867.—A valve regulated by the interior apparatus is placed between the supply and carbonizing chambers to regulate the inflow of gas by the amount consumed.

*Claim.*—First, an improved apparatus for carbonizing and saving gas for illuminating purposes, constructed as described, and operated in connection with a burner and cheek, in the manner and for the purpose set forth.

Second, an upper chamber E, in combination with the pipe I, button valve *a*, shaft *b*, and set screw *c*, all constructed and operated as set forth.

Third, the perforated partition *d*, perforated pipe G, in combination with the chamber D and its subdivisions D' D'', constructed and operated substantially as described.

Fourth, the fluid line J, in conjunction with the pipe I and chambers E and D D' D'', constructed and operated as set forth.

Fifth, the employment of finely-carded wool as the interposing fibrous material, in the manner and for the purpose set forth.

**72,826.**—JAMES ELLIOTT, New York, N. Y.—*Stump Extractor.*—December 31, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the fork H with its handle *e*, with the chain G, T-shaped strut F, and windlass B, as herein described for the purpose specified.

Second, the stump extractor constructed as described, consisting of the lever D, windlass B, hand wheel C, chains E G, strut F, and fork H, constructed and arranged as described, whereby the fork H is depressed and the windlass operated to extract the stump, as herein shown and described.

**72,827.**—DAVIS EMBREE, Dayton, Ohio.—*Food for Stock.*—December 31, 1867.—Explained by the claims.

*Claim.*—First, the mode of preparing distillers' slops for food by adding alkaline substances in quantities sufficient to neutralize the acids in the slops, and no more.

Second, the mode of restoring to distillers' slops, thus prepared, the starch and saccharine matter taken out in the process of distillation by steeping coarse animal food in the hot slops, substantially in the manner set forth.

Third, the mode of preparing saturated slops from meal by the application of steam to a mixture of



coarse animal food and meal, substantially in the manner set forth.

**72,828.**—PHILIP ESTES, Leavenworth, Kansas.—*Head Block*.—December 31, 1867.—The bearer of the knee frame has an open rack engaged by a spur wheel on the frame. The spur wheel is actuated by four pawls on a lever, and the wheel shaft has a ratchet wheel engaged by stop pawls. The lever has eccentric projections on its ends by which the frame is clamped when the lever is depressed.

*Claim.*—First, the lever D provided with the eccentrics working on the shaft *s*, upon each side of the pinion C, for clamping the knee B upon the bearer A, as herein shown and described.

Second, the combination of the open rack *a*, pinion C, knee B, forked lever D, pawls *c*, ratchet wheel E, dogs *d*, segments *e*, and adjustable stop *g*, as herein described for the purpose specified.

**72,829.**—JOHN FANNING, Brooklyn, assignor to JOHN S. ANDREWS, New York, N. Y.—*Sewing Machine*.—December 31, 1867.—The looper is on a bar that is connected by a joint to a lever, and is reciprocated thereby. This bar slides within an eye in another lever between the feed bar and the bed. The latter lever is moved by the cam, and is kept in contact therewith by a spring.

*Claim.*—The movable finger *o* in combination with the looper *h* and lever *k*, to which motions are given by the lever *f* and cam *5*, as and for the purposes specified.

**71,830.**—AMBROSE G. FELL, Brooklyn, N. Y.—*Rendering Articles Incombustible*.—December 31, 1867.—In water, 1 gall., dissolve phosphate of ammonia, 1½ oz., and sulphate of ammonia 6½ oz. The light fabrics are dipped into the solution, but it is forced into the pores of the timber by hydraulic pressure.

*Claim.*—The application of the compound herein described to wood, textile fabrics, paper, and all analogous substances, substantially as described, for the purposes specified.

**72,831.**—E. R. FERRY, New Haven, Conn.—*Check and Driving Rein*.—December 31, 1867.—The fore end of the rein is separated into two pieces, one of which passes through the martingale rings to the bit, and the other through the gag runner to the bit.

*Claim.*—The combination of the check rein *d* and driving rein *b* with the bit of the bridle, when the said check rein passes through the eyes *a*, thence directly to the bit, and the whole constructed and arranged so as to operate in the manner described.

**72,832.**—CHARLES FILLMORE, Romeo, Mich., assignor to himself and GEORGE WASHER, same place.—*Trace Buckle*.—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The buckle frame A and the plates B and D, constructed and used together, with the tugs E and F, substantially as and for the purpose set forth.

**72,833.**—A. D. FOWLER, Newark, N. J.—*Children's Carriage*.—December 31, 1867; antedated December 21, 1867.—The fore-wheel axle has bearing in the down-curved ends of the longitudinal spring bars. The upper section of the clip runs more than 180° around the axle, the rest of the socket being supplied by the other section.

*Claim.*—First, the clip D, for children's carriages, constructed as described, consisting of the part *d*<sup>1</sup>, upon the upper side of the arm B, cast with a shoulder upon it, the outer end passing around and embracing the part *a*' of the spindle, the part *d*<sup>2</sup>, upon the under side of the arm B, fitting against the shoulders of the part *d*<sup>1</sup>, thereby forming a continuous bearing, as herein set forth, for the purpose specified.

Second, the hollow spindle A cast in one piece, and provided with the part *a*', by which it is secured in the bearing of the clip D, as herein set forth for the purpose specified.

**72,834.**—SAMUEL GANTZ, Beaver Creek, Md.—*Machine for Separating Wheat from Garlic*.—December 31, 1867.—The garlic, owing to its softness, is pressed by the rubber roller into the small grooves

at the bottom of the inclined grooves, from whence it is cleared and discharged through the waste opening.

*Claim.*—First, the grooved incline S having the slots *s s*, and the apertures *a a*, arranged as shown, and the whole constructed and operating substantially as and for the purpose described.

Second, the guide block I having the arches *i i*, substantially as and for the purpose specified.

Third, the grooved gum roller D, when used in a separating machine, substantially as and for the purpose set forth.

Fourth, the wheel C<sup>2</sup> having the grooves *c c* terminating in the channels *c' c'*, substantially as and for the purpose shown.

Fifth, the combination of the incline G, guide I, gum roller D, wheel C<sup>2</sup>, and rake M M' *m*, substantially as and for the purpose described.

Sixth, the combination of the wheel C<sup>2</sup> and toothed roller K', substantially as and for the purpose shown.

**72,835.**—R. GARTER, Grand Rapids, Mich.—*Cultivator*.—December 31, 1867.—The axle standards slide in plates having notched surfaces, which engage similar surfaces upon blocks traversed by bolts attached to the axle standards. The plow frame is vertically adjusted by this means. The peripheries of the wheels are cleaned by adjustable scrapers. The clevis has a socket attached to its upper end, the tongue passing through the said socket and being secured by a set screw.

*Claim.*—First, the arrangement of the wheels E E, hung on the inside of the frame beams A A, with an adjustable cast-iron slide *b* working in uprights *c c*, having serrated or toothed faces for fastening it at any height, with corresponding serrated washers *h h* on the bolts *d*, by the crank nuts *e*, substantially as and for the purposes herein described.

Second, the sliding adjustable wipers *k* in combination with the wheels E E, constructed and operating as and for the purposes herein described.

Third, the cast-iron loop *n* and clevis *n'*, combined with the draught pole F, constructed and applied substantially as set forth.

**72,836.**—J. C. GASTON, Cincinnati, Ohio.—*Envelope*.—December 31, 1867.—The side flaps are perforated at the corners, so that any attempt to open the letter will result in their fracture and expose the attempt.

*Claim.*—An envelope having the perforations in the end flaps or back, or both, so located as to be covered and concealed by the closing flap C when closed, substantially as and for the purpose set forth.

**72,837.**—JOHN GILMORE, Phoenixville, Pa.—*Horse Hay Fork*.—December 31, 1867.—The points are pivoted to two frames, the inner one of which slides upon the other and serves by its drawing up, by means of a double bell crank to which it is connected, to elevate the points and engage the hay. This position is secured by a spring catch.

*Claim.*—First, the combination of the jaws J J, sides A A, sliding rods C C, connecting rods R R, cranks *m m*, shaft M, arm *m'*, snap *s*, spring slide *s'*, and handle D, when the said parts are constructed, arranged, and combined, substantially in the manner and for the purposes specified.

Second, in a horse hay fork of the within described construction, the projecting curved lugs *e*, in combination with the sliding rods C C and jaws J J, the latter having the shoulder *v* so formed that when the jaws are retracted it will rest upon the upper side of the lugs and support the jaws J J independently of their pivot, substantially in the manner described.

**72,838.**—WILLIAM C. GOODWIN, Hamden, Conn.—*Machine for Trimming Strawberry Vines*.—December 31, 1867.—Explained by the claims and illustration.

*Claim.*—First, the combination of the rotary cutting blade, with the fixed cutting blade, when constructed, arranged, and fitted for elevating and cutting the runners or creeping vines, substantially as herein described and set forth.

Second, the combination of the rotary cutting blade with the pinion and internal gear, or their equivalent, when constructed, arranged, and the



blade caused to rotate in the manner and for the purpose substantially as herein described and set forth.

**72,839.**—WILLIAM F. GOODWIN, East New York, N. Y., assignor to himself and CHAS. R. SQUIRE, New York, N. Y.—*Harvester Rake*.—December 31, 1867.—Motion is communicated from the counter shaft to the tubular rake shaft by chains and chain wheels. The polygonal head and rake and reel heads rotate with the shaft. The rake, after its sweep over the platform, is thrown upward by the friction roller acting on the heel extension, and moving forward in an elevated position descends for the next stroke at the proper time. The reel arms follow a somewhat similar course, being elevated when passing the driver.

*Claim.*—First, the ball and socket connection between the vertical rake shaft and its driving mechanism, substantially as described.

Second, the arrangement of the ball and socket joint in the rake-driving mechanism in line with the hinge or joint of the cutting apparatus or platform, substantially as described.

Third, the driving pulley and chains, in combination with the coupling arm or its equivalent and the rake standard, arranged substantially as described.

Fourth, the separate inclined ways  $e$   $e'$  for regulating the depression of the rake and reel arms independently of each other, as described.

Fifth, the friction rollers  $f$   $f'$  arranged to regulate the elevation of the rake and reel arms independently of each other, as described.

Sixth, the angular head  $G$ , in combination with cap  $D^3$  and inclined ways  $e$   $e'$ , substantially as and for the purpose described.

**72,840.**—WILLIAM F. GOODWIN, East New York, assignor to himself and CHAS. R. SQUIRE, New York, N. Y.—*Harvester Rake*.—December 31, 1867.—The rake head is attached to a crank on a shaft, receiving partial rotation by guides to keep the rake in contact with the platform in its backward and effective stroke, and to raise the same in its forward and return stroke.

*Claim.*—First, the vibrating rake frame or case  $C^2$ , provided with the tubular arm  $C^3$ , arranged and operating in combination with the vertical shaft, substantially as described.

Second, the rake shaft  $D$  provided with the crank arm  $E$ , in combination with the tubular arm  $C^3$  and the rake frame  $C^2$ , substantially as described.

Third, the horizontal track or way  $b$  provided with the cam switches  $b^2$   $b^3$ , in combination with the reciprocating and vibrating lever  $E^2$ , connecting rod  $E^1$ , and crank arm  $E$ , for giving the rising and falling movements to the rake, as described.

**72,841.**—WILLIAM F. GOODWIN, East New York, N. Y.—*Harvester Rake*.—December 31, 1867.—The reel shaft is placed in rear of the cutting apparatus, and has a forward bend to bring the said reel into proper position. The rake arm is attached to a block oscillating in a socket upon the projection of a tubular shaft, carrying a sprocket wheel, through which the motion is communicated from the main axle, and a bevel wheel communicating motion to the reel. The rake is raised upward by a cam track during its forward partial revolution.

*Claim.*—First, an overhanging reel and an independently revolving rake, supported at a point in rear of the cutting apparatus and between the driving wheels, substantially as described.

Second, a revolving rake and an independently revolving overhanging reel, arranged upon a common shaft or support, in combination with a sprocket wheel and reel-driving gear arranged upon the same support or shaft, substantially as described.

Third, the sprocket wheel  $P^1$  located upon a rake shaft, arranged between the driving wheels, and operated from a similar wheel on the end of the drive-wheel axle by means of a chain  $G$ , arranged substantially as described.

Fourth, an inclined reel shaft, supported at a point in rear of the cutting apparatus, in combination with the bent or angular reel arms, substantially as described.

Fifth, the hub  $I'$ , or its equivalent, intermediate between the bevel wheels on shaft  $I$ , provided with the

cap or guide  $F$ , substantially as and for the purpose set forth.

Sixth, the combination of standard  $B$ , arm  $B^1$ , bent shaft  $I$ , revolving rake  $A$ , and an independently revolving reel, arranged and operating substantially as described.

**72,842.**—WILLIAM F. GOODWIN, East New York, N. Y., assignor to himself and CHARLES R. SQUIRE, New York, N. Y.—*Mechanical Movement for Converting Power into Speed*.—December 31, 1867.—The enclosing cylindrical case is fixed, and has an inside gear. A planet wheel on an arm turning with the axial shaft engages the inside gear, and also a spur wheel upon a sleeve turning loosely on the axial shaft. The latter sleeve has an arm carrying a planet wheel. This device may be multiplied to any extent to convert power into speed.

*Claim.*—First, the arrangement of a series of wheels within a wheel on and around one shaft or axle, whereby any desired number of revolutions can be produced, and any required power can be obtained for converting speed into power and power into speed for multiplying and transmitting motion, and for power machines for hoisting and other purposes, substantially as described.

Second, the arrangement of the hollow sleeves on the shaft  $S$  and in the journal boxes  $U$  and  $U'$  on the frame  $F$  and posts  $F'$ , and the pulleys  $P$  and  $P'$ , constructed and operated in the manner and for the purposes substantially as described and shown.

**72,843.**—WILLIAM F. GOODWIN, East New York, N. Y.—*Revolving Retort for Roasting Ores*.—December 31, 1867.—The sides have volute corrugations which form pockets to lift the material when the retort is rotated.

*Claim.*—A corrugated retort, constructed in form and manner and for the purpose substantially as described.

**72,844.**—JOHN GORDON, New London, Conn.—*Spring-Power Repeating Fire-arm*.—December 31, 1867.—The hammer top has a catch-bar engaged by studs on the winding wheel to cock the said hammer. The winding wheel is connected by a chain on its periphery to the barrel of the coiled spring, and when the winding wheel is freed by pawls connected to the trigger the said wheel rotates  $180^\circ$  and trips the catch-bar, allowing the hammer to fall; another retraction of the trigger allows a further rotation of  $180^\circ$  and recocks the gun.

*Claim.*—The combination, as well as the arrangement of parts for effecting the retraction of the hammer after a pull on the trigger, such consisting of the spring  $f$  and its wheel  $C$ , the cord  $l$  and winding wheel  $D$ , or the equivalent thereof, the hooked pawl  $s$ , the escapement wheel  $E$  and its click  $t$  and ratchet  $F$ , and the lever pawls  $G$   $H$ , applied to the trigger  $A$  and the mainspring  $d$ , as set forth.

**72,845.**—JOHN B. GREEN, Darien, assignor to himself and J. A. REED, Stamford, Conn.—*Padlock*.—December 31, 1867.—The curved body and straight latch are hinged together by a screw-threaded stud on the former, which enters a screw socket of the latter. The other ends are secured by a screw passing through a hole in the latch, and engaging a screw socket in the curved body. The screw is only operated by a peculiar key.

*Claim.*—A padlock, having a curved body  $A$  and straight latch  $B$ , hinged together by the screw  $a$  and socket  $b$ , and otherwise constructed and arranged substantially as herein specified.

**72,846.**—R. R. GWATHMEY, Middletown, Ky., assignor to himself and C. W. MATTHEWS.—*Cotton Ginning Machine*.—December 31, 1867.—The cotton from the hopper passes to the hulling saws prior to entering the gin proper. When the cotton reaches the second hopper the lower saws combine with the cage cylinder to separate the cotton from the seed. It then passes through the ribs to the bush cylinders, by which it receives the finishing action.

*Claim.*—First, the mode of hulling and ginning cotton into one same machine, and at one same operation, by means of one, two, or more ribbed aprons combined with one, two, or more saw cylinders, invariably driven or rotated in the direction shown by



red ink arrows  $\alpha \alpha'$ , figures, Plates 1 and 3, in the manner and for the purpose above set forth and described.

Second, the combination of wire-cage cylinders C' C'' with saw cylinders C and C' and ribbed aprons E' J' and E J, the whole constructed and operated in the manner and for the purpose above set forth and described.

Third, the combination of ribbed cylinder R B (Plate 3) with top saw cylinder C and ribbed apron E' J', and shoveller screw S C, the whole constructed and operated for the purpose and in the manner above set forth and described.

Fourth, the combination of upper saw C with top apron E J and screw S C, by means of which the cotton is hulled and rid of all dirt and trash, in the manner above set forth and described.

**72,847.**—ELIPHALET HALL, Dunnamora, N. Y.—*Peat and Brick Machine.*—December 31, 1867.—The peat from the pug mill passes into the molds. The mold wheel has intermitting motion from the lever through the medium of the pawl, the presser and pusher being carried up and down by the same means, the latter ejecting the bricks onto the off-bearing belt.

*Claim.*—The presser and pusher, with or without the lever arm and carrying pawl, when combined together and arranged to operate with reference to the mold wheel A, substantially as and for the purpose specified.

**72,848.**—L. B. HAMILTON, Boston, Mass.—*Corn Harvester.*—December 31, 1867.—The stalks are cut up by the rotating S-shaped knives, and are moved backward by the spiral conveyor to a pen in the rear part, in which the bundles or gavels are collected and from which they are removed.

*Claim.*—First, the combination and arrangement of the S-shaped cutters U, spiral conveyors J, fingers K, and body E with box C, as herein described, for the purpose specified.

Second, the cylindrical pointed fingers K, in combination with the rotary S-shaped cutters U, as and for the purpose specified.

**72,849.**—HENRY HAMMOND, Hartford, Conn.—*Cartridge Ejector for Breech-loading Fire-arms.*—December 31, 1867.—Improvement on his patent October 25, 1864. The extractor is moved backward some distance by a positive motion when turning the breech block to open the breech, the spring completing the movement and ejecting the shell.

*Claim.*—The combination of the unlocking bolt  $a$  and the stud  $d$  with the extracting bar  $e$ , its notch  $f$ , and the ejecting spring  $s$ , constructed and operating substantially as herein described.

**72,850.**—P. H. HARDY, Terre Haute, Ind., assignor to himself and E. M. HARDY, same place.—*Sash Adjuster.*—December 31, 1867.—The sashes are balanced by connection together, the cord passing over a sheave. The cord is connected at one end to a plate adjustable in a box attached to the upper bar of the lower sash.

*Claim.*—First, the adjusting box C, with its movable stop plate  $a$  constructed, arranged, and operating substantially as herein shown and described for the purposes set forth.

Second, in combination with the adjusting box C, connecting the upper and the lower sash together so that they will balance each other, substantially as described for the purposes set forth.

**72,851.**—J. L. HEFFRON, Marathon, N. Y.—*Sled Brake.*—December 31, 1867.—The tongue has longitudinal movement in the roller, and actuates the dog brake when the sleigh presses forward toward the team.

*Claim.*—First, the sliding plate  $d$ , on the roller B, for closing the slot  $b$  in the runner, when made and arranged as described, and when fitted between the two bars  $c e$ , as set forth.

Second, the combination of the roller B, fitted in the slotted runner, with the sliding plates  $d$ , levers  $f$ , semi-annular levers  $g$ , and adjustable dogs  $h$ , all made and operating substantially as herein shown and described.

**72,852.**—GEORGE H. HESS, Chicago, Ill.—*Weeding Machine.*—December 31, 1867.—The share has a number of backward projections, to shake the earth from the roots of the weeds.

*Claim.*—The machine, consisting of the inclined blades A, attached to the central standard C, and the latter secured to the hand frame, having a single wheel at the front and handles at the rear, all constructed and arranged substantially as herein described.

**72,853.**—JAMES A. HOUSE and HENRY A. HOUSE, Bridgeport, Conn.—*Trunk.*—December 31, 1867.—The trunk is protected from violence by elastic pads attached to its corner clamps.

*Claim.*—First, the combination, substantially as described, of the elastic shield of the metal clamp, for the purposes specified.

Second, a perforated metal clamp, through which an elastic boss or shield projects, and by which the shield is fastened to the trunk, substantially as described.

Third, the combination of the elastic boss with the metal plate, having claws grasping the boss, as shown in Figs. 4 and 5.

Fourth, clamping an elastic boss upon the head of the nail or screw which fastens the clamp in position, as described.

**72,854.**—THOMAS N. HOWELL, Circleville, Ohio.—*Lighter and Alarm.*—December 31, 1867.—The release of the detent causes the alarm to sound and the lamp to raise up on end. The movement of the lamp rubs the match upon the rough surface and lights it and the lamp.

*Claim.*—First, the lamp A, constructed as described, and provided with the spring E, in combination with the spiral match holder  $a''$  and the friction plate G, as and for the purpose described.

Second, in combination with the above, the alarm apparatus, consisting of the stud F, spring  $f'$ , nipple  $f''$ , and stop  $f'''$ , as and for the purpose described.

**72,855.**—EDWARD I. HUGHES, Pittsburg, Pa.—*Kite.*—December 31, 1867.—The kite has a light metallic framework, and is formed in imitation of a bird.

*Claim.*—The kite frame, constructed as described, consisting of the bent bar A, saddle B, curved operating bar G, backbone C, beak and sternum D, tail bars E, and wing bars F, all constructed and arranged as described, for the purpose specified.

**72,856.**—D. S. HUMPHREY, East Townsend, Ohio.—*Fence and Trellis Hook.*—December 31, 1867.—The head of the hook is on one side of the shank, and so formed that on being driven into a post the hook will embrace a wire and hold it in place. It is used as a substitute for a staple.

*Claim.*—A cut hook-headed spike or nail, constructed as described, and for the purpose specified, as a new article of manufacture.

**72,857.**—WM. B. HUTCHINSON, Newbern, N. C., assignor to himself and MITCHELL, ALLEN & CO., same place.—*Well Tube.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The combination of the conical gauge strainer F, perforated inverted conical sand basket D, and perforated pointed cylinder A, having the openings G in the hollow bead near its lower end, as herein described for the purpose specified.

**72,858.**—ALLEN INGALLS, Hartwick, N. Y.—*Poling Hops.*—December 31, 1867.—The poles have cross-pieces at top, from which cords pass to points on the other poles nearer to the ground.

*Claim.*—The combination and arrangement of the poles A, cross-bars C, and cords D, as and for the purpose set forth.

**72,859.**—ALMON B. IVES, Bloomington, Ill.—*Metallic Column for Bridges.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The cast iron column A, consisting of two arms B B, constructed as described, and provided with ribs or flanges R R, cap  $c$ , and foot or shoe H, said arms bolted at the top and spread at the foot, and connected by one or more braces D, substantially as and in the manner herein set forth; said column A to be used for abutments and piers in iron and wooden



bridges, substantially as and in the manner herein described, and specified.

**72,860.**—R. V. JONES, Canton, Ohio.—*Horse Hay Fork*.—December 31, 1867.—The frame of the pivoted tooth is held in working position by a projection, which takes over a latch which is withdrawn by a cord to release the load.

*Claim.*—First, the use of the cross-bar G, in combination with its arm E, as and for the purpose specified.

Second, the strap A, with its prongs or teeth B, in combination with the bar F, with its prong J and cross-bar G, and the arm E and cord I, arranged and used as and for the purpose set forth.

**72,861.**—JACOB KATZENBERG, New York, N. Y.—*Car Brake*.—December 31, 1867.—The treadle is so connected to a lever beneath the car as to simultaneously apply all the brakes.

*Claim.*—The jointed foot-lever J, pivoted to supports K, attached to the platform B or railing C, or to both, and connected with the brake rod I by a chain L, passing around a friction pulley M, substantially as herein shown and described and for the purpose set forth.

**72,862.**—MAX A. KEILIG, Boston, Mass.—*Dress Hook*.—December 31, 1867.—The point of the hook has an offset to receive the point of the spring.

*Claim.*—The formation of the hook tongue *a* with the shoulder bend *e*, as and for the purpose set forth.

**72,863.**—A. LABAIR, Pewaukee, Wis.—*Portable Fence*.—December 31, 1867.—Each panel has at each end a braced side base extending in opposite directions. The panels are secured together by traverse pins, and give mutual support.

*Claim.*—A fence constructed as specified, and so devised that all the parts may be formed of the same kind of lumber, substantially as described.

**72,864.**—EZRA B. LAKE, Bridgeport, N. J.—*Scale*.—December 31, 1867.—The weight slides on the beam, and its position is controlled by a graduated arm, which has movement before a scale plate, so graduated that the weight and value of the article may be simultaneously ascertained.

*Claim.*—The combination of a vibrating frame or beam of a scale, a graduated plate or plates, and a weight controlled by a graduated arm or arms, all substantially as and for the purpose herein set forth.

**72,865.**—MICHAEL A. LANAGAN, Brooklyn, N. Y., assignor to himself and JOHN DAILEY, same place.—*Oar Lock*.—December 31, 1867.—The thole ring is hinged to admit of vertical or horizontal oscillation, and its upper segment is hinged to its lower one, and connected by a pin on the side opposite to the hinge.

*Claim.*—The combination of the hinged row-lock A and pivoting bolt C with each other, substantially as herein shown and described and for the purpose set forth.

**72,866.**—MICHAEL A. LANAGAN, Brooklyn, N. Y., assignor to himself, JOHN DAILEY, ROBERT RUSSELL, and ANDREW MERCEIN, same place.—*Boat-detaching Apparatus*.—December 31, 1867.—The lever is pivoted to one of the hinged jaws, and connected to the other by a slot and traversing pin in such manner as to operate the jaws by movement of the lever.

*Claim.*—The combination of the slotted lock and trip lever E with the hooked bars B and C, substantially as herein shown and described and for the purpose set forth.

**72,867.**—LEOPOLD JONAS LAVATER, Paris, France.—*Means for Attaching Brackets to Glass*.—December 31, 1867.—The bracket brace has a flat surface between which and the glass is interposed the "label." The latter is gummed on both sides.

*Claim.*—The application of the gummed paper or cloth labels *f*, for the purpose of securing brackets A to glass or other smooth or polished surfaces B, substantially as herein shown and described.

**72,868.**—LEWIS LEIGH, Bridgeport, Conn.—*Globe Valve*.—December 31, 1867.—A spring friction

clamp is applied to the hand wheel in such a manner as to prevent the accidental turning of the same.

*Claim.*—The spring *g*, with the socket *h* and clamp *i* applied around the valve stem between the stuffing box and the hand wheel, as and for the purposes set forth.

**72,869.**—CHARLES LEWANDO, Boston, Mass.—*Illuminated Sign*.—December 31, 1867.—The letters are cut in an opaque sign board, and an endless transparent apron, variously colored, is illuminated in the rear and revolved behind the letters.

*Claim.*—An illuminated sign, made by combining with the perforated plate D a traversing parti-colored semi-transparent band C C, through which the light for illumination passes, substantially as described and for the purpose set forth.

**72,870.**—WILLIAM H. LEWIS, New York, N. Y.—*Roller for Towels*.—December 31, 1867; antedated December 17, 1867.—The end piece which forms one of the roller bearings, is moved out to disengage the roller when a clean towel is to be placed thereon. The end piece is locked when slipped back into position, so as to prevent the surreptitious removal of the towel.

*Claim.*—A movable end piece for securing the end of the towel roller, substantially as set forth.

**72,871.**—NATHAN LONG, Eaton, Iowa.—*Table Leaf Support*.—December 31, 1867.—The leaf supports have a rubber link at one end, by which they are drawn beneath the leaves on extension of the latter. They may be drawn back by cords, which extend to the end of the table frame.

*Claim.*—The combination of the self-acting supports C with the springs *b b* and cords *d d*, constructed, arranged, and operating as and for the purpose herein shown and described.

**72,872.**—WILLIAM LUCAS, Rushville, Ill.—*Machine for Making Cider*.—December 31, 1867.—The apples first pass between crushing rollers, of which the driving one has rectangular teeth entering similar recesses in the other. The wearing side of the recesses, when wooden rollers are used, is coated with metal. From the crushing rollers the pomace falls on rubber-covered pressing rollers of greater length; the juice running over their ends to the strainer and the pomace passing between.

*Claim.*—First, the metal plate *v* in the sockets *b*, when arranged as described and for the purpose set forth.

Second, the combination of the crushing rollers B C, pressing rollers E F, guards *g*, troughs *r r*, spout J, and strainer I, when arranged to operate as shown and described.

**72,873.**—JOSEPH MAITRE, Chatillon, France.—*Separating Bark from Wood*.—December 31, 1867.—Explained by the claim.

*Claim.*—The process described in the present memorial, and consisting in the employment of heat in the shape of hot water, hot steam, hot air, or gases, either separately or in combination, in conveniently arranged apparatus, for the purpose of decorticating or barking oak and other descriptions of wood, in the manner herein explained, and as illustrated by the annexed sheet of drawings representing one of the modifications of the said apparatus.

**72,874.**—WESLEY MALICK, Tidioute, Pa.—*Bending Device*.—December 31, 1867.—The hollow frame has a slotted end and top through which work the arms of a bell-crank lever having a notch in the end of its short arm. The blank is laid across the slot and drawn down by the lever, forming the required bend.

*Claim.*—First, the arrangement of the elbow-lever B *b*, hung in the slots *a* and *a'* and the frame A, substantially in the manner and for the purpose specified.

Second, the combination of the stop E, arranged in the slot *a*, with the frame A and lever B *b*, as herein described, for the purpose specified.

Third, the horizontal lever F, constructed as described, in combination with the elbow lever B *b*, grooved projections *c c*, and frame A, substantially as herein described, for the purpose specified.



**72,875.**—JAMES A. MARSHALL, Mechanicsburg, Pa.—*Whip Rack*.—December 31, 1867; antedated December 24, 1867.—The wire whip rack is secured to a wooden bar and is so engaged as to form a spring holder.

*Claim.*—The construction of a wire spring holder and spring guide, substantially in the manner and for the purpose as herein set forth.

**72,876.**—C. B. MARTIN, Fond du Lac, Wis.—*Shingle Band*.—December 31, 1867.—The wires are attached to the lower board, and when the upper board is forced down by a press the wires are bent around its end and forced into the vertical holes.

*Claim.*—The binder for shingles, constructed as described, consisting of the perforated wooden boards A and wires B, operating as described, for the purpose specified.

**72,877.**—WILLIAM H. MAY, Bridgeport, Conn.—*Preparing Wood for Musical Instruments*.—December 31, 1867.—The boards are soaked for a month or more in chamber lye and then kiln dried.

*Claim.*—The improved mode of treating wood to increase its vibratory power and sonorous quality, for application to the sounding boards and other parts of piano fortes and other musical instruments, or an equivalent process, substantially as herein described.

**72,878.**—P. E. MINOR, Schenectady, N. Y.—*Material for Manufacture of Glass*.—December 31, 1867.—The dross is to be treated while in a melted state from the furnace, or at a subsequent time.

*Claim.*—The manufacture of glass of the dross or refuse which is thrown off in the smelting of iron ore, substantially as described.

**72,879.**—H. H. MITCHELL, Mineral Point, Wis.—*Hand Loom*.—December 31, 1867.—The movement of the yarn beam is regulated by a cord and weight. Weights are placed on the treadles. Metallic screw tappets are placed in the rollers to operate the treadles.

*Claim.*—The combination and arrangement of the lay E supporting the take-up beam C with the link e, loose ratchet pulley H, shaft a, screw pins h, and weights g, all operating as described, for the purpose specified.

**72,880.**—A. N. MOORE, North Cohocton, N. Y.—*Plow*.—December 31, 1867.—The common shovel-plow has an overcurved top, adjustable side wings, and a detachable share.

*Claim.*—First, the employment of the scrapers b and wings d, either separately or together, in combination with a plow, substantially as and for the purpose shown and described.

Second, the slotted wing d, substantially as shown and described, in combination with a plow, for the purposes set forth.

Third, the curved corners a of a plow, substantially as shown and described, in combination with the wings d for accomplishing the more perfect lateral delivery of the soil, all as set forth.

**72,881.**—DUNCAN MORRISON, Portland, Me., assignor to himself and WILLIAM HAMMOND, same place.—*Motor for Carriages*.—December 31, 1867.—The weights are raised by levers through the medium of the cords, and in descending their teeth catch the teeth upon the endless apron which is stretched around the drums and causes their rotation.

*Claim.*—The arrangement of the levers A B, pulleys a b, cords e c', trucks e e' and f f', weights g g', toothed belt h, drum i i', and the releasing device composed of the lever n, cord o, pulleys p r, and spring catches m, all as and for the purposes set forth.

**72,882.**—F. MOSMAN, Cambridge, Mass.—*Steam Engine Governor*.—December 31, 1867; antedated December 19, 1867.—One of the two shafts has rotation directly from the engine, its speed being relative to that of the engine. The other shaft has motion from the engine, but its speed is regulated by a pendulum or balance wheel. A variation in speed causes a longitudinal movement in the shaft which is connected to the governor valve.

*Claim.*—First, the combination of the two shafts

A B, having independent rotation in the same direction, and a sleeve G, adapted to receive longitudinal motion by any inequality in the rotation of the said shafts, substantially as and for the purposes set forth.

Second, the combination with the shafts A B of the arm F and pin f, the scroll cam C and sleeve G, constructed and operating substantially as described.

Third, the combination of the sleeve G, plungers H H', and pins k k', and helical cam L, constructed and operating substantially as described.

Fourth, the helical cam L in combination with a traversing rod K with an intervening device, such as the spring pins k k', or their equivalents.

Fifth, the helical cam L in its combination with the pulley M, the pawl and ratchet m m', and the shaft A.

Sixth, the cam C, sleeve G, ratchet wheels g g', pawls n n', and pins f<sup>1</sup> f<sup>2</sup> on the arm F, operating substantially as described.

**72,883.**—M. C. MOTCH, Covington, Ky., assignor to himself and W. F. SMIRALL, same place.—*Rotary Brick Machine*.—December 31, 1867.—The clay is forced down by a series of arms rotating within the hopper and driven by the horizontally reciprocating plunger into the molds. The sides of the molds are operated by a cam and anti-friction rollers, and are drawn in at the bottom of their rotation to leave the brick upon the off-bearing belt.

*Claim.*—First, the hopper B, having the ribs o on its inner sides, in combination with the shafts a and a' provided with the compressing arms b, all constructed and arranged to operate substantially as and for the purpose described.

Second, the follower C, actuated by the eccentric E, in combination with the revolving drum O having the sliding molds i arranged thereon, substantially as set forth.

Third, the rotating mold drum O, provided with a number of sliding mold boxes i, constructed and arranged substantially as described.

Fourth, the repressing board S, operated in the manner and for the purpose specified.

Fifth, the springs U, in combination with the mold boxes i, when the same are constructed and operate substantially as and for the purpose herein set forth.

Sixth, the guides T and T', when constructed substantially as described and for the purpose specified.

Seventh, the shearing knife Q, when operated in the manner substantially as shown and described and for the purpose set forth.

**72,884.**—BENJAMIN H. NAVES, Philadelphia, Pa.—*Pump Piston*.—December 31, 1867.—The foot-valve box is frusto-conical, and rests in a suitable seat at the lower end of the lining. The latter has a packing ring near the top, between it and the case.

*Claim.*—First, the inside lining C, constructed with a tapering base for receiving the clapper or valve box, and also with a provision at or near its upper end for receiving a packing e, substantially as described.

Second, the pump bucket A, constructed with two parts a a', with packing b between said parts, being confined together, and the clapper held in place by means of the tangs on the end of the bail E, substantially as described.

**72,885.**—JOHN NESTER, Portland, Oregon.—*Scribe Hook for Weatherboarding*.—December 31, 1867.—The adjustable scribe is used for marking the weatherboarding. The slide gauge is used for spacing, is set to the scale, and is adjusted by a longitudinal screw rod turned by a knob at the end. The spur is used to denote the place for the next gauge nail.

*Claim.*—The weatherboard hook M, having shoulders I I, when used in combination with the scale O, slide gauge F, spur G, and sliding marker B, the whole being arranged in one instrument, and forming a combined tool of the character and for the purposes set forth.

**72,886.**—W. H. NOBLES, St. Paul, Minn.—*Smoke Extinguisher for Boilers*.—December 31, 1867.—The smoke and ashes are drawn from the flues by a fan and damped by water thrown out from the perforations in the tubular fan shaft. The dampened ashes



are deposited beneath. The intention is to do away with sparks and the necessity of large chimneys.

*Claim.*—The arrangement of the flues E F and G G, with the blower B, perforated shaft L, and discharge opening M, whereby to carry off the smoke and sparks, and to dispense with a smoke stack, substantially as herein set forth.

**72,887.**—D. J. OWEN, Springville, Pa.—*Machine for Boring Hubs.*—December 31, 1867.—The screw shaft separates at its rear end into two parallel arms which traverse horizontal holes in a post and sustain the shaft in position. The arms carrying the tools pass through the slide, and as the hub is fed onto the shaft the slide draws the tools together and forms the necessary taper from the shoulders of the cylindrical cavity for the box.

*Claim.*—The stationary screw shaft A, bearing the slide D and adjustable cutters *f f'*, in combination with the yoke F bearing the hub, composed of two parts, when such yoke is adapted to revolve carrying the hub, the latter being fed to the stationary cutters by means of the screw *a\** and the double nut *l m*, as herein described for the purpose specified.

**72,888.**—MILTON J. PALMER, Syracuse, N. Y.—*Coupling for Whiffletrees.*—December 31, 1867; antedated December 24, 1867.—The outer segmental projections of the piece attached to the whiffletree engage the inner projections of the flange of that portion attached to the cross-bar when the whiffletree and bar are parallel.

*Claim.*—The sections A and B, with their respective flanges *b b'*, ears E E, arm F, segments *c c*, and projections *e e*, when constructed and used in the manner and for the purposes specified.

**72,889.**—S. G. PEABODY, Champaign, Ill.—*Cultivator.*—December 31, 1867.—The tongue is jointed above the supporting caster wheels, and the plow frame may be thrown up at the rear and secured by the sliding bolt, when moving from field to field. The plow beams are pivoted to pendants at the rear of the frame, and are adjustable on pendants at their fore ends.

*Claim.*—First, the slide bolt E, applied to the draught pole B, and arranged in relation with the cross-bar C, to operate in the manner substantially as and for the purpose set forth.

Second, the arrangement of the front bar D with the standards F of the caster wheels G\*, and the arms *g* of the cross-bar C, substantially as and for the purpose set forth.

Third, the cross-bar C, provided with the pendant arms G, in combination with the plow beams H H' and adjustable frames I, all arranged substantially as and for the purpose specified.

Fourth, the stay or brace bars *j j*, in connection with the bars C D and the standards F of the caster wheels G, all arranged substantially in the manner as and for the purpose set forth.

Fifth, the bracing of the handles J J' by means of the bars K, substantially as set forth.

Sixth, the placing of the draw bolt L at the rear of the draught pole, substantially as and for the purpose specified.

**72,890.**—WALTER PECK, Rockford, Ill.—*Windmill.*—December 31, 1867; antedated December 27, 1867.—The crank of the vane shaft is connected to the pitman by a ball and socket joint. The vanes are turned upon their arms by connection to a collar which is caused to slide upon the shaft by a yoke connected by levers to the auxiliary windmill. The speed is thus regulated.

*Claim.*—First, the weighted link S, lever M and link M', as arranged, in combination with the adjustable collar L and links L', arms and sails K K', for the purpose and in the manner as described.

Second, windlass U, rod R, and yoke R', in combination with the link S, as and for the purpose set forth.

Third, in combination with the above described mill, the auxiliary mill or wings P, as and for the purpose set forth.

**72,891.**—SAMUEL PENNOCK, Kennett Square, Pa.—*Railway Car.*—December 31, 1867.—The draw head is connected to a wedge, which is driven by a

collision between a fixed horizontal plate and a spring block to ease the stroke. The outer end of the moving platform has checker-form projections, to prevent lateral movement between cars on collision.

*Claim.*—First, a momentum-absorbing attachment to railroad cars, tenders, or locomotives, which is made and operated substantially as herein shown and described.

Second, the movable platform J, when provided with roughened, partly-projecting, partly-receding surfaces, substantially as herein shown and described.

Third, the movable platform J, when connected by rods I, or directly with a wedge or wedges H, which work upon a follower E, resting upon spring F in a box B arranged on a car, substantially as herein shown and described.

Fourth, the movable platform J, when provided with a movable coupling bar K, the same moving independent of the platform and within it, substantially as and for the purpose herein shown and described.

Fifth, the follower E, when combined with the bolts G and springs F in the box B, and with the wedge H and platform I, substantially as herein shown and described.

Sixth, the connecting rods I I, when set on edge and when working in the slotted plate *b*, in combination with the sliding platform J and wedge H.

**72,892.**—DUANE T. PERKINS and CHARLES F. HOVEY, Springfield, Mass.—*Hose Coupling.*—December 31, 1867; improvement on their patent September 10, 1867.—The duplicate parts of the coupling are interlocked by the inclined ears. The packing is in annular grooves of the faces, and channels from the interior of the hose lead to a groove behind the packing, to force the latter outward when a pressure is on the water.

*Claim.*—First, in a hose coupling, composed of two parts, I I', interlocking by means of the inclined ears or lugs B B, the nut *c*, turning upon the stud *a*, applied to either or both of said parts, substantially as and for the purpose set forth.

Second, the annular groove *x'*, water channel *x*, and ports *m m*, in combination with the elastic strip *w*, the whole arranged substantially as described, and constituting a packing to be applied directly to the end of either or both parts of a hose coupling, and operating both by its own elasticity and by the pressure of the water, as set forth.

**72,893.**—CHARLES F. PIKE, Providence, R. I.—*Corpse Preserver.*—December 31, 1867.—The metallic case has an interior wire basket to receive the corpse. Between the basket and case are pipes which contain a freezing mixture. The cover has hollow pockets for the circulation of air which passes into the pans to which the tubes are attached. The inner cover is cooled with ice and the outer one incloses the interior arrangements.

*Claim.*—First, the application of a tubular ice box to a corpse preserver, whether the same be made with openings near the bottom or on the bottom, or whether the same be made tight, and you get your cold by conduction, substantially as herein described and delineated on the drawings hereto annexed.

Second, the construction of the corpse preserver, substantially in the manner set forth in the drawing, and described in the specification, of getting the rotation or movement of the air in the chamber A, substantially as described.

Third, the combination of the tubes or pipes E with the chamber A, cases I J, cover C, substantially as herein described and for the purposes herein set forth.

**72,894.**—CHARLES F. PIKE, Providence, R. I.—*Preserving, Refrigerating, and Transporting Perishable Articles.*—December 31, 1867.—The preserving rooms are surrounded by non-conducting material, and are cooled by pipes containing freezing mixture, and communicating with an ice chamber above and drain pipes beneath.

*Claim.*—First, the application of the pipes or tubes to a vessel for the purposes of refrigeration, preservation, and transportation of meats, fruits, and provisions from one place to another, substantially as set forth and described, whether the rooms are built to the ship, or built and put into the ship or vessel.

Second, the combination of the tubes or pipes with



the rooms R, vessel V, substantially as herein described and set forth, and for the purposes set forth.

**72,895.**—CHARLES F. PIKE, Providence, R. I.—*Construction of Railroad Cars for Preserving and Transporting Meats, Fish, and Vegetables.*—December 31, 1867.—The preserving chambers are attached to railroad cars, and are surrounded by non-conducting walls, floor, and ceiling. These chambers are cooled by pipes communicating with an ice chamber and drain traps. The pipes may have perforations allowing the cool air to flow out into the preserving chamber, and the air from this chamber passing into the ice chamber and through the pipes establishes an endless circulation.

*Claim.*—First, the application of tubular ice boxes to a railroad car, for the purposes of refrigeration, preservation, and transportation of meats, fish, and fruits from place to place, substantially as set forth and described.

Second, the combination of the pipes or tubes with the room or rooms R, with the running gear H, substantially as set forth, when used for the purposes set forth and described.

Third, the tubular ice box, with or without its being perforated at the top and bottom, with the room R, whether the same be constructed as a part of the car or merely put upon a flat, with the running gear H attached to that flat, and to be removed at will or pleasure, substantially as and for the purposes set forth.

**72,896.**—MANUEL PIRZ, East New York, N. Y.—*Dining Table.*—December 31, 1867.—The base piece supporting the rotatable disk is removable so that the cloth may be spread beneath it.

*Claim.*—The arrangement of the grooved base B and top C with the table A, when the table cloth is adapted to be spread over the table and beneath the base B in such a manner as to permit the top C to revolve without its rollers coming in contact with the table cloth, as herein shown and described.

**72,897.**—C. H. PLATT, North Fairfield, Ohio.—*Gate.*—December 31, 1867.—One of the bars is extended at the fore end, and enters one of the two notches in the post, where it is secured by a pin. The middle and rear uprights are adjustably secured to a bar sliding in the upright bar, which is hinged to the post. The gate is slid backward to a balance, and then turned to open the whole gateway.

*Claim.*—Forming the notches F in two sides of the rear gate post E, for the reception of the supporting bar C, substantially as herein shown and described.

**72,898.**—E. L. PLATT, Boston, Mass.—*Tobacco Cutter.*—December 31, 1867.—The plug is placed on the swinging lever, and when the free end of the latter is raised is thrust beneath the fixed knife. The gauge plate has a closed and open-ended slot, which embrace the attaching screws, so that by a movement endways the plate may be free to swing down from before the throat.

*Claim.*—The throat piece or gauge plate d, made, held in position, and having provision for removal without starting its fastenings, substantially as set forth.

Also, providing the swinging lever or carrier e with scale marks, substantially as shown and described.

**72,899.**—FRANKLIN B. PRINDLE, Southington, Conn.—*Machine for Heading Bolts.*—December 31, 1867.—The blank is held between a pair of holding dies, the square portion of the shank upset by a punch, and then squared by a pair of dies. The head is swaged into form by a single plunger die. The diameters of the round and square parts of the shank are made equal.

*Claim.*—The combination of the holding dies e and e' and squaring dies g and h with the upsetting punch j' and plunger or heading die k, when they are constructed, arranged, and operated substantially as herein described and set forth.

**72,900.**—E. T. PRINDLE and JOHN WELFARE, Aurora, Ill.—*Lantern.*—December 31, 1867.—The case is perforated at the base, and the currents of air are turned upward to avoid deflection of the flame to

one side. The top aperture for escape of the caloric current has two curved plates to protect the hand.

*Claim.*—The arrangement of the case A, the bull's eye B, glass C, and lamp K, the case being provided with a lining I and with perforations i, whereby a steady current of air is supplied to and in the direction of the lamp flame, substantially as and for the purpose specified.

**72,901.**—R. B. PRINDLE, Norwich, N. Y.—*Wagon Jack.*—December 31, 1867.—The lever is connected by a link to the rack. The lifting bar has a cross-bar engaged by the teeth of the rack, which is raised by the lever. The latter is swung under so far as to be self-supporting.

*Claim.*—The notched rack bar E, arranged and constructed in combination with the connecting link f, fulcrum lever D, bottom bar a, and sliding frame C C, operating substantially in the manner as herein described, for the purposes set forth.

**72,902.**—EDWARD D. PRITCHARD, Boston, Mass.—*Railroad Rail.*—December 31, 1867.—The ends of the rails are scarfed together and connected by horizontal bolts traversing longitudinal slots.

*Claim.*—A railroad rail, formed with enlarged ends, as described, and mitred joints, when the small end of the joint is provided with shoulders c and connected together by means of bolts passing through elongated openings in the same, substantially as and for the purpose set forth.

**72,903.**—RANSOM RATHBONE, New York, N. Y.—*Gun-wad Punch.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—A wad punch, provided at or near its delivery end with lubricating ways or perforations for operating in combination with an outside supply chamber or box, from which the oil or grease is drawn or fed to the interior of the punch, for greasing the edges of the wads as or before they are delivered from the punch, substantially as specified.

**72,904.**—PHILIP REES, Bridgewater, Pa.—*Device for Soldering Sheet-metal Cans.*—December 31, 1867.—The frame is inserted through the mouth and expanded within the cavity of the can. The expansion is caused by depression of the cylindrical sleeve to which the vertical plates are connected by radial hinged arms. The arms are made to assume a horizontal position, and retained by the cam latch which passes through a slot in the rod and holds down the sleeve.

*Claim.*—The rod B, the cylinder C, radiating arms f f, &c., hinged vertical plates F F, &c., the compressor D, the pin d, the mortises c c, the latch A, and mortise b, the disk E, or their equivalents, constructed, arranged, and operated in the manner and for the purpose shown and described.

**72,905.**—THOMAS C. RICHARDS, New York, N. Y.—*Attaching Ornamental Heads to Nails, Screws, &c.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—Attaching ornamental heads to nails and screws by means of a recess or groove to receive the head of the nail or screw, composed of a separate piece of metal attached to the under side of the ornamented head, as herein shown and described.

**72,906.**—JOHN W. RICHARDSON, Boston, Mass.—*Miter Box.*—December 31, 1867.—The guide blocks are pivoted at their inner ends to the frame supporting the saw guides, and have links whose ends are pivoted together and guided in a slot of the frame extension, so that the blocks stand at equal inclination to the frame.

*Claim.*—A miter box, constructed by combining with the piece sustaining the saw guide posts, stock guides separately pivoted so as to be turned each on its own center with respect to said piece, and arranged to be held thereto and adjusted by means of pivoted links, all substantially as set forth.

**72,907.**—OLIVER RICHARDSON, Boston, Mass.—*Cotton Seed Planter.*—December 31, 1867.—The seed is agitated by rotary wings, and drawn from the hopper by the clawed sides of the cavities in the periphery of the seed-dropping wheel. The seed drops between



the opener and coverer, which are attached to a frame adjustable beneath the hopper frame.

*Claim.*—First, the combination and arrangement of the projection I and the two rotary agitators K K with the hopper and the seed-dropping wheel arranged therein, as specified.

Second, the arrangement and combination of the disks *g g* with the two agitators K K, a series of blades, and their hopper.

Third, the application of the plowshare and cover supporter or frame L to the carriage body by means substantially as specified, whereby the adjustment of the plowshare may be effected and the coverer be free to play vertically, in manner as explained.

Fourth, the formation of each of the notches or cavities *d* of the seed-dropping wheel E, hook-shaped, as represented, and to operate with the advance spout and upon the seed, as specified.

Fifth, the combination and arrangement of the deflector T with the hopper and seed-dropping wheel, the agitators, and the projection I arranged in such hopper, as specified.

**72,908.**—PETER RIORDAN, Washington, D. C.—*Clothes Line Holder.*—December 31, 1867.—The end of the line is held between the serrated surfaces of the frame and the pivoted block.

*Claim.*—The device above described, consisting of the frame A, clamp C, and spool R, when combined, constructed, and operating substantially in the manner as and for the purpose specified.

**72,909.**—JAMES S. ROGERS, Worcester, Mass.—*Sink Trap.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—A trap for an iron kitchen-sink, constructed with lugs E F, or their equivalents, to secure the strainer or cover in position, so that the same may be removed without disturbing the waste-pipe coupling, substantially as described.

**72,910.**—WILLIAM F. RUNDALL, Genoa, N. Y.—*Harvester Reel.*—December 13, 1867.—The hub has two flanges adjustable in distance. One flange has ribs for attachment of the arms supporting the angle sockets which receive the ends of the beaters.

*Claim.*—The metallic elbows E, constructed as described, in combination with the plates B and D, constructed as described, as and for the purpose specified.

**72,911.**—E. WALTON RUSSELL, Baltimore, Md.—*Tumbler Washer.*—December 31, 1867.—The upper end of the water-pipe has an obliquely perforated cap through which the valve stem passes. The valve is seated beneath the cap and is depressed by the bottom of the tumbler to allow the flow of water.

*Claim.*—The tumbler washer, above described, consisting of the water-pipe B, cap C, valve D, and rod E, all constructed, combined, and arranged substantially as and for the purpose specified.

**72,912.**—EDWARD SCHLICHTING, New York, N. Y.—*Cigar Pipe.*—December 31, 1867.—The device is similar in form to a cigar, and has a cylindrical part to contain the tobacco. The cover and bottom of the cylinder are both perforated. Between the bottom and the mouth piece is a chamber and side drain to receive the nicotine.

*Claim.*—The attachment D, having the chamber H, when attached to the part C, having the chamber *a*<sup>1</sup>, as herein shown and described.

**72,913.**—JOHN C. SCHOOLEY, New York, N. Y.—*Construction of Dikes, Levees, and Embankments.*—December 31, 1867.—A deep and narrow longitudinal channel is formed where the levee is to be built, and filled in with a grouting which will harden sufficiently to deter muskrats from boring through the levee. This core may be cast partly beneath the ground and partly between walls of boards erected for that purpose.

*Claim.*—First, the construction of an impervious and continuous core for dikes or levees, formed by pouring into a prepared channel any suitable material or mixture, in a heated or liquid state, that will become hardened when cooled, substantially as and for the purpose specified.

Second, the construction and arrangement of the

portable metal, earthen, or wooden mold, when adapted to receive and deposit the core in its liquid state in the prepared channel and above it, in the manner and for the purpose specified.

**72,914.**—CARL H. SCHUBEUS, Newark, N. J.—*Lock for Traveling Bags.*—December 31, 1867.—The spring knob is attached to the rear jaw and is slotted to receive the catch, which is rigidly fixed to the front jaw. When the bolt is shot its salient part stands beneath the shoulder of the knob, and prevents its depression to release the catch.

*Claim.*—The plate O, knob G, spring H, bolt K, and catch E, substantially as herein described and for the purposes named.

**72,915.**—JAMES M. SCOTT, Kinsman, Ohio.—*Mechanical Movement.*—December 31, 1867.—A pin projecting from the pitman works in the slot of the feed-shaft crank and causes its rotation.

*Claim.*—The feed shaft E, slotted crank D, and pin c, in combination with the pitman B and shaft A, arranged and operating in manner and for the purposes substantially as described.

**72,916.**—OLIN SCOTT, Bennington, Vt.—*Gunpowder Canister.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—As a new article of manufacture a metallic gunpowder keg or canister of hexagonal or polygonal form, with the sides and heads corrugated, the heads being secured by seaming, and one of the heads having an opening in it near an angle, all constructed and arranged as and for the purpose herein shown and described.

**72,917.**—JACOB SENNEFF, Philadelphia, Pa.—*Heddle for Looms.*—December 31, 1867.—The heddles have eyelets for the passage of the rods. The eyelet plates may be split at the outer ends, each point having a cord for securing it to the rod.

*Claim.*—First, the heddles of looms, when constructed with the metallic clasps C or metallic eyes B, and also with metallic eyelets D cast upon twine or wire, substantially as set forth.

Second, so constructing the removable eyelets for attaching the heddles to the rods that they may be clamped upon the same independently, for the purpose of replacing a broken heddle, substantially in the manner set forth.

**72,918.**—DAVID SHAEFFER and AARON McCABE SHAEFFER, Centerville, Iowa.—*Beehive.*—December 31, 1867.—The entrance of the hive extends horizontally to near the usual place of entrance, from whence it turns downward and enters the chamber at the bottom of the hopper-shaped lower part of the hive. This chamber has a drawer for collection and removal of offal.

*Claim.*—The arrangement of the entrance A, drawer D, chamber C, and removable boxes G G<sup>1</sup> G<sup>2</sup>, in connection with the inclosing box E and frame A, substantially as described.

**72,919.**—WILLIAM ANTHONY SHAW, New York, N. Y.—*Manufacturing and Uniting Alloys of Metals in Forming Water Pipes and Other Articles.*—December 31, 1867; antedated December 17, 1867.—Explained by the claims.

*Claim.*—First, covering the surface, either inside or out, or both inside and out, of an alloy of lead and antimony, or of lead and tin, or of lead, tin, and antimony, or their equivalents, for this purpose, with pure tin, when said alloy is made in a pipe or other article of manufacture, substantially as described.

Second, covering the surface, either inside or out, or both inside and out, of an alloy of lead and antimony, or of lead and tin, or of lead, tin, and antimony, or their equivalents, for this purpose, when made into a pipe or other article of manufacture, with an alloy of cadmium and tin, or of cadmium, tin, and bismuth, or of tin, lead, cadmium, and bismuth, or of tin and nickel, or of tin, nickel, and bismuth, or their equivalents, for this purpose, substantially as described.

Third, covering an alloy of lead with an alloy of tin, when made in a pipe or other article of manufacture, by first making the lead-alloyed pipe or article



and then applying the tin alloy thereto in a state of fluidity.

**72,920.**—C. L. SHIELDON, Lowville, N. Y.—*Apparatus for Cooling Milk.*—December 31, 1867.—The water surrounds the metallic milk tank, and flows out into a tilting pan, which is connected to one end of a walking beam, from whose other end is suspended a conical bell having a valve at top. The tilting of the pan raises the bell and agitates the milk. When empty the pan returns to upright position and the bell sinks in the milk, its valve opening to allow its immersion.

*Claim.*—First, the combination of the water receiver *a d* with the connecting arms, and the valve *r* attached to the plunger *k*, as and for the purpose specified.

Second, the combination of the ratchet wheels *f f*, windlass *s*, the spool *e*, the tipping shelf *t*, and weight *p*, as constructed and arranged for the purpose of stopping the agitation at any given time.

**72,921.**—PETER SHELLENBOCK, Middletown, Ohio, assignor to himself and MILTON RALSTON, same place.—*Vise.*—December 31, 1867.—Both jaws slide in a frame by the rotation of a single right and left hand screw, turned by the lever oscillating axially with the shaft, and whose pin enters the scollops of a wheel upon the said screw shaft.

*Claim.*—First, the right and left screw *C*, in combination with frame *A* and jaws *B*, constructed, arranged, and operating in the manner and for the purpose substantially as described.

Second, the lever *E* with its slot *M* and detent *F*, in combination with scalloped wheel *D* and screw *C*, for operating the jaws *B* in the manner and for the purpose described.

**72,922.**—SOLOMON SHETTER, New Cumberland, West Virginia.—*Plow, Potato Planter, and Seeder Combined.*—December 31, 1867.—The endless belt has revolution from the ground roller, and its buckets or forked projections carry the potatoes or seed, respectively, from the hopper.

*Claim.*—The endless carrying or distributing belt *H*, provided with buckets *K*, or forked projections *I*, in combination with the hopper *D*, tube or chamber *E*, plow *A*, and covering share *J\**, all arranged substantially as and for the purpose set forth.

**72,923.**—JOSEPH SILL, Montoursville Pa., assignor to DRAKE, SILL, and HUTSON, same place.—*Pruning Shears.*—December 31, 1867.—The socket in which the limb is received is beveled so as to cause the knife to cut at an incline.

*Claim.*—First, the inclined socket *B'*, substantially as and for the purpose specified.

Second, the instrument above described, having the socket *B'* and the curved and beveled blade *C* operating in combination with it, substantially as and for the purpose set forth.

**72,924.**—JAMES D. SINCLAIR, Brooklyn, N. Y.—*Apparatus for Delivering Goods.*—December 31, 1867.—The bale is received in a spring trap at the bottom of each inclined chute and the tilting trap reverses the direction of the bale, delivering it to the next chute, thus passing through the hatchways from deck to deck, or story to story.

*Claim.*—First, the trap *D D*, when pivoted at the angles of the zigzag way *A*, substantially as herein shown and described, for the purpose of arresting goods to be lowered, to prevent their descending with too great velocity.

Second, providing the traps *D D* with adjustable backs *b b*, substantially as described, and for the purpose of adjusting the device for goods of greater or less bulk, as set forth.

Third, the traps *D D*, when arranged as described, in combination with the spring boards *d e*, all made and operating substantially as and for the purpose herein shown and described.

**72,925.**—GEORGE SMITH, Providence, R. I.—*Lamp Burner.*—December 31, 1867.—Improvement on his patent May 14, 1867.—A segmental slide closes the opening in the burner, through which a lighted match is introduced to ignite the wick. A spring attached to the wick tube retains the slide in place.

*Claim.*—First, the construction of the wide and narrow opening *a a'* through the burner case, with a lip *b* formed on the case, and arranged in such a position as to receive the flaring forked end *c* of the spring slide *G*, substantially as and for the purposes described.

Second, the construction of the spring slide *G* with a forked end *c*, and a narrow tail piece *f*, this slide being curved and perforated substantially as described.

Third, the manner of attaching the spring *J* to the wick tube by a staple *g*, substantially as and for the purposes described.

**72,926.**—JONATHAN SMITH, Tiffin, Ohio.—*Pencil Holder.*—December 31, 1867.—The metallic tube for reception of the pencil has clinching teeth for attachment to the garment, and a rubber ring to prevent the pencil from escaping.

*Claim.*—The elongated tube *A* with an opening in its side, around which opening and tube is an india-rubber band *G*, said tube being provided with teeth *e e* for securing it within the garment, for holding a pen or pencil as set forth.

**72,927.**—W. BELL SMITH, Charleston, S. C.—*Boiler Tube Cutter.*—December 31, 1867.—The revolving tool is moved radially by the inclined end of the axial screw pin and cuts the tube within the tube plate.

*Claim.*—First, the hollow mandrel *D*, cap plate *I*, enter bar *G*, with the inclined extremity *b*, and the feed screw *L*, in combination with the cutter block *H*, all constructed and operating substantially as and for the purpose described.

Second, the clamp *E*, in combination with the box *C*, for securing the machine to a boiler-flue sheet in the manner described.

Third, the gear wheels *M M' N N'*, the nut *P*, the mandrel *D*, and the enter bar *G*, combined, arranged, and operating as and for the purposes described.

Fourth, the pin *K*, held by the spring *e*, and working in the annular groove *d*, in combination with the mandrel *D* and box *C*, as herein shown and described for the purpose specified.

Fifth, the combination of the clamp *E*, the box *C*, the mandrel *D*, the enter bar *G*, the cutter block *H*, the nut *P*, and the gears *M M' N N'*, constructed, arranged, and operating substantially as and for the purpose described.

**72,928.**—WILLIAM W. SMITH, Chicago, Ill.—*Snow Sweeper for Streets.*—December 31, 1867.—The wires are secured in the heads by metallic blocks which are drawn down upon their bent ends by screws. The brush frame may be raised by a lever. The brushes are driven by clutch connection with the ear wheels.

*Claim.*—First, the range of brushes *E*, mounted on shafts *D*, with universal joints *C*, in combination with the yokes *F*, all arranged and employed as and for the purposes specified.

Second, the construction of the brushes *E*, by setting their wires in holes in the brush heads, and securing them with caps *S*, applied as represented and described.

Third, the lever *M*, chain *K*, eccentric *I*, and rod *H*, in combination, as and for the purposes specified.

Fourth, the wheel *1*, in combination with wheels 2 and 3, and clutch *O*, for the purpose of transmitting the power from one to the other series of brushes, as set forth.

**72,929.**—D. M. SOMERS, Brooklyn, N. Y., and W. S. ATWOOD, N. J.—*Button.*—December 31, 1867.—A pointed stud is thrust through the garment from the inside, and the tubular neck of the button compressed upon its redneed part.

*Claim.*—Providing buttons with a hollow neck *N*, to be compressed to fit the diminished form of central stem *S*, as shown in Figs. 2 and 3, at *A*, substantially as herein specified and described for the purposes set forth.

**72,930.**—ELIHU SPENCER, Ottawa, Canada.—*Indicator for Railway Stations.*—December 31, 1867.—The plates bearing the names and distances of stations, &c., hang over a prismatic drum, which is turned by connection with the axle or by the brakeman.



*Claim.*—A case A, having the cylinder E mounted therein, with the disk *d* and spring *l* arranged to hold it in position, and having the series of plates with the names of stations thereon hinged together, and arranged to wind over said cylinder to and fro, and fold up in the lower part of the case, substantially as shown and described.

**72,931.**—CHARLES STETEFELDT, Austin, Nevada.—*Furnace for Roasting and Treating Ores.*—December 31, 1867.—A small furnace is placed beneath the passage leading from the chloridizing shaft to the dust chambers, to complete the chloridization.

*Claim.*—A furnace constructed with a shaft B, the fall of the ore through which is retarded by the upward motion of the heated air and chloridizing gases, combined with a fire-place J opening into the canal H' and below the flue D, substantially as described and for the purposes set forth.

**72,932.**—JOHN B. STEVENSON, Jr., Philadelphia, Pa.—*Manufacture of Oil Cloth.*—December 31, 1867.—Equal quantities of linseed and cotton-seed oil are used in mixing the paint.

*Claim.*—The mode of manufacturing oil cloth by the means substantially as described.

**72,933.**—JOHN T. STOAKES, Parish of New Church, England.—*Car Coupling.*—December 31, 1867.—Duplicate draw heads on the two cars have catches for coupling, and side springs by which they are kept in coupling position. The draw heads and brakes are respectively connected by chains to two collars on the same shaft, which is turned by hand, and operates to uncouple the draw heads, or to apply the brakes, according to direction. The collars screw upon the shaft, and a rotation in one direction brings a projection in one of the collars against a stud on the shaft which rotates the collar. The opposite rotation actuates the other collar in a similar manner.

*Claim.*—First, the construction and arrangement of the slotted pivoted bar D, elliptic springs C, and bumper bar *b*<sup>1</sup>, substantially as described for the purpose specified.

Second, the shoulder *b*<sup>3</sup> of the bumper head, with a link socket to receive the link of an ordinary car coupling, substantially as herein shown and described and for the purpose set forth.

Third, the combination of the two collars H and I with the vertical shaft G, the said collars and shaft being constructed and arranged substantially as herein shown and described, so that the cars may be uncoupled and the brake applied by operating the same shaft.

**72,934.**—W. M. STODDARD, San Francisco, Cal.—*Marking Guide for Sewing Machines.*—December 31, 1867.—The marker slides in a vertical socket of an arm attached to the stationary support bar of the presser-foot. The marker is depressed by a spring connected to the needle arm, and makes a series of depressions in the cloth.

*Claim.*—The device for marking for tucks, arranged in relation to the sewing machine substantially as described, and consisting of the adjustable guide bar A, marker G, having a slot I', spring *a*, and adjustable spring bar J.

**72,935.**—R. C. STURGES, Barnstable, Mass.—*Feed Bucket.*—December 31, 1867.—The bucket has an annular space communicating at its bottom with the inner cavity to keep the latter supplied with grain to a safe elevation. The annular space has a hinged lid.

*Claim.*—A feed bucket, having an outer or grain-containing chamber and an inner or feed chamber connected together, and supplied, the latter from the former, substantially as set forth.

**72,936.**—BERNHARD SUVERKRUP, Louisville, Ky.—*Straw Cutter.*—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The combination of the crank S, fly wheel A, with adjustable knife B, bevel wheels E F G and H, slot O, wrist P, levers K and L, ratchet M, and spring catch N, when constructed, arranged, and operating in the manner and for the purposes set forth.

**72,937.**—W. B. TREADWELL, Albany, N. Y.—*Cooking Stove.*—December 31, 1867.—The ashes and cinders fall from the shaking grate bottom on to an inclined hanging sifter grate with an inclined plate beneath. The cinders and ashes are distributed to different receptacles.

*Claim.*—First, the grated way B, substantially in the manner and for the purpose herein set forth and described.

Second, the inclined plate D attached to the grated way, substantially as described and for the purposes herein set forth.

Third, the grate C, grated way B, and inclined plate D, in combination, substantially as and for the purpose described.

Fourth, the grated way B, the grate C, the inclined plate D, in combination with the coal box E, the ash pan F, constructed substantially as and for the purpose herein described.

**72,938.**—W. B. TREADWELL, Albany, N. Y.—*Cooking Stove.*—December 31, 1867.—The air passes to the upper part of the fire space through register holes in the front plate communicating with a transverse aperture before the top of the fire pot. The air also passes through the side plate and between the front plates of the oven to the top of the fire, and also through the side plates and vertical tubular bars to the rear of the fire space, and is discharged to the fire top. The ashes and cinders fall into a sifter and are deposited in two different receptacles within a chamber whose front part swings out on hinges to permit removal of the receptacle.

*Claim.*—First, grate G, combined with plates F and *v*, constructed substantially in the manner and for the purpose above described.

Second, grate G, plates F and *v*, in combination with plates *d* and *e*, for introducing air at *m* and *n*, constructed substantially in the manner and for the purposes above described.

Third, the fire chamber, constructed as above, in combination with the sifter L, substantially in the manner and for the purposes above described.

Fourth, the sifter L, in combination with the boxes M and N and the grate G, substantially in the manner and for the purpose above described.

Fifth, the hearth H, constructed substantially in the manner and for the purpose described.

**72,939.**—EDWARD M. TROTH, New York, N. Y., assignor to himself and JOHN A. SECOR, same place.—*Marine Steam Engine Governor.*—December 31, 1867.—Intended to prevent "racing" in the shaft of a steamboat engine when the propeller screw is raised from the water. In this event the pendulum swings forward and operates the slide valve of a small cylinder, whose piston is connected to the governor valve.

*Claim.*—The combination of the pendulum I with the slide valve H, steam chest L, steam cylinder A, and piston B, and with the piston rod C and connecting rod D, all made and operating substantially as and for the purpose herein shown and described.

**72,940.**—A. W. TUCKER, Waxahatchie, Texas.—*Field Threshing Machine.*—December 31, 1867.—The grain is taken from the ground as left by a reaping machine and conveyed by an endless apron to the threshing cylinder, and from the said cylinder to the riddling mechanism by the same belt.

*Claim.*—First, arranging a threshing cylinder above an endless apron E of a field-threshing machine in such a manner that the straw and grain emerging from the threshing cylinder will fall upon the same apron by which they were conveyed to the said cylinder, substantially as herein shown and described.

Second, the apron E, threshing cylinder J, and roller M, in combination with each other, all arranged and operating substantially as and for the purpose herein shown and described.

Third, the spirally-flanged serrated take-up roller L, when made and operating substantially as and for the purpose herein shown and described.

Fourth, the hinged bars *c*, in combination with the roller D, apron E, guards N, and lever H, all made and operating substantially as herein shown and described.



**72,941.**—RICHARD VOSE, New York, N. Y.—*Car Spring*.—December 31, 1867.—The spiral spring is imbedded into the rubber by pressure and heat.

*Claim.*—The within-described improvement on the combination spring patented by me, December 17, 1865, viz., placing a plain cylinder of sulphurized india-rubber or gutta-percha within the coiled metallic portion of the spring, and then grooving said cylinder and more perfectly combining it with the said metallic portion of the spring preparatory to subjecting it to the requisite curing process, all substantially as herein set forth.

**72,942.**—EDWARD WADHAMS, Yorkville, N. Y.—*Roller Journal Box*.—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The anti-friction rollers E, for supporting the axle in its journal box, or vice versa when said rollers are supported by pivots C, in radial grooves or channels *b* in the side plates B, substantially as shown and described.

**72,943.**—ALFRED WALKER, New Haven, Conn.—*Spring Bed Bottom*.—December 31, 1867.—A socket is formed in, or a socket plate is attached to, each end of the slat. The top end of the springs engage in the sockets, and are detachable therefrom.

*Claim.*—Providing the slat E with a socket corresponding to each spring, whether the socket be attached to or formed in the said slat, the two sockets opening in opposite directions, and so as to receive and hold the two springs in the manner and for the purpose as herein set forth.

**72,944.**—ZACHARIAH WALSH, Newark, N. J.—*Traveling Bag*.—December 31, 1867.—Explained by the claims and illustration.

*Claim.*—The inner edge of the carpet-bag frame bent outward in such a manner as to prevent contact with the cloth B, whereby the chafing and wear of the latter are prevented, as herein shown and described.

Second, the frame of traveling bags secured to the cloth or leather by means of the eyelet C, either with or without the closed end *c*, as herein shown and described.

**72,945.**—JACOB H. WEAVER, Mauricetown, N. J., assignor to himself and GEORGE WEBB, Philadelphia, Pa.—*Steering Apparatus*.—December 31, 1867; antedated December 24, 1867.—The described devices are for facilitating the turning of the rudder, and for preventing injury to the gearing should the rudder be elevated from any cause.

*Claim.*—First, the rudder post *a*, with its toothed segment or pinion *k* and the toothed segment *h*, in combination with the hand wheel shaft *c*, its pinion *d*, and the shaft D, wheel *e*, and pin *i*, or their equivalents, the whole being constructed and operating substantially as described.

Second, the segment or pinion *k*, secured to the rudder post when of greater thickness than the wheel or segment with which it gears, for the purpose specified.

**72,946.**—RODOLPHUS L. WEBB, New Britain, Conn.—*Reversible Latch*.—December 31, 1867.—Explained by the claim and illustration.

*Claim.*—The combination of the lock and latch, when the latch bolt and its operative mechanism are arranged in a case or frame independent of the main case, and constructed so that the latch bolt may be removed, substantially as described, without removing the said independent case from the main case.

**72,947.**—LEOPOLD WEGMANN and C. D. DIESSEL, Allegheny City, Pa.—*Horse Collar*.—December 31, 1867.—The front part of the collar is formed of curved bars of wood covered with leather, and to these bars are riveted the metallic blades, to which the traces are attached by links and hooks.

*Claim.*—First, the collar, to be used without hames, and dispensing with the rim, having the curved pieces of wood B B and the blades C C forming a part of it, constructed substantially as and in the manner set forth.

Second, the metal blade C, having notches *f f f* and the clasp *m*, for the purpose set forth.

Third, the clip, consisting of the detachable link *a*,

plate *b*, T-shaped portion *e*, constructed and operating substantially as set forth.

Fourth, the combination of the clip G with the metal blade C, as shown in the drawing, Fig. 5.

**72,948.**—ANDREW H. WEMPLE and THOMAS D. RICHARDSON, New York, N. Y.—*Combined Sash and Shutter Fastener*.—December 31, 1867.—The shutter has a hinged plate which passes beneath the sash and secures the latter to the sill by a turning head plate.

*Claim.*—The jointed plate A, having a bent extremity *c*, and combined with the duplex hook B to form a blind and sash fastener, as herein described and represented.

**72,949.**—D. B. WESSON and JOHN H. BLAZE, Springfield, Mass., assignors to WESSON FIRE-ARM COMPANY, same place.—*Manufacturing Ribs and Bolsters for Double-Barreled Guns*.—December 31, 1867.—A tube has a collar welded onto one end, and the bolster is formed therefrom for a series of ribs, into which the tube is divided.

*Claim.*—First, constructing "ribs" for double-barreled guns from a metallic tube, substantially as set forth.

Second, constructing a "bolster" or keel, to be used in combination with a rib upon a double-barreled gun, from a collar fastened to or made a part of the metallic tube, out of which such rib is to be formed, substantially as described.

Third, as an article of manufacture, a rib for use upon a double-barreled gun, when formed from a metallic tube, substantially in the manner specified.

**72,950.**—RICHARD P. WHELAN, Leavenworth, Kansas.—*Bridle Bit*.—December 31, 1867.—The reins pass through the bit rings and gag loops to the martingale.

*Claim.*—First, the straight bar A, having rings or bows *a a*, the curved under bar or bow B, with one or more rollers *b*, as constructed, with ornamental scroll side pieces C C, diamond-shaped rings E E, friction rollers *e e*, when combined with single reins G G, arranged and operating substantially in the manner herein described for the purposes specified.

Second, the combination of the single pair of reins G G with the loops *h h*, pulleys I I, rings E E, rollers F F, and snaffle hook *g*, when connected and arranged in the manner as and for the purposes herein set forth.

**72,951.**—J. ALBERT WHELPLEY, Greenwich, New Brunswick.—*Machine for Grinding and Polishing Articles of Metal*.—December 31, 1867.—Two grindstones are associated together, and with a vibratable rest, by which the opposite sides of an article may be ground or polished.

*Claim.*—The combination of the two grindstones or polishing wheels G G, rest J, rock shaft O, and arm P, arranged and constructed as and for the purposes described.

**72,952.**—JOHN L. WHIPPLE and ADOLPHUS BONZANO, Detroit, Mich.—*Steam Engine Lubricator*.—December 31, 1867.—The valve has a stem reciprocating within the oil cup, or within a cylinder beneath it and in communication with it.

*Claim.*—The combination of the perforated or indented rod E and oil cup D with the cylinder A and slide valve B, substantially as described, for the purpose specified.

**72,953.**—DAVID WHISLER, Union township, Ohio.—*Ditching Machine*.—December 31, 1867.—The platform is hinged to the beam and is depressed more or less at the rear end by a screw rod. The earth is loosened up by the shovel and moved up and out laterally by the side plates.

*Claim.*—First, the hinged platform T, for regulating the depth of the furrow or ditch, substantially as described.

Second, in combination with the above, screw *h* and springs *t*, substantially as set forth.

Third, axle B, wheels C C, beam A, platform T, screw *h*, springs *t*, and vertical knife P, all combined and arranged as and for the purpose set forth and described.



**72,954.**—W. W. WORDEN, Waukesha, Wis., assignor to himself and DANIEL HOWELL, same place.—*Bolt Cutter*.—December 31, 1867.—The end of the bolt, above the nut, is cut off by the sliding knife operated by the eccentric lever.

*Claim.*—Eccentric lever B, hook E, roller D, and cutting knife C, in combination, substantially as described.

**72,955.**—ALFRED YOUNG, Philadelphia, Pa.—*Lacing Device*.—December 31, 1867.—Cleats in form of a double hook are secured near the shoe top for the retention of the ends of the laces.

*Claim.*—First, the cleats *d d*, attached to a shoe or other article of wearing apparel, secured by laces at opposite sides of an opening or slit in the same, and arranged in respect to the usual eyeleted openings, as set forth.

Second, the cleat *d*, made in the form of a double hook, as and for the purpose specified.

**72,956.**—W. H. YOUNG and L. YOUNG, Boston, Mass.—*Caster for Trunks*.—December 31, 1867.—The caster shank is within a socket in the trunk, but has no rotation therein. The inner end of the shank rests against a spiral spring and gives way when the corner is brought in violent contact with the ground.

*Claim.*—The combination and arrangement of the several parts of the caster, namely, the bolt *c* with its wheel *f*, the slot *d*, the pin *e*, and the spring *g*, all in combination and operating substantially in the manner and for the purpose above set forth.

**72,957.**—ISAAC N. YOUNG, Swan, Ind.—*Gate*.—December 31, 1867.—The gate is suspended from the top bar, which slides longitudinally on rollers and is operated by a cord attached to its ends. The cord coils upon a roller upon the main post, which is turned by cranks secured to posts up and down the road.

*Claim.*—First, in combination with a sliding gate, the arrangement of the pulley shaft *e'* and crank shaft H, the latter two connected together by the rings at their extremities, in the manner and for the purposes set forth.

Second, the sliding bars or arms *a a*, in combination with the crank shaft H, when used in connection with a farm gate, substantially as and for the purpose specified.

Third, the spring O, when used in connection with the cord *c* upon a farm gate, substantially as and for the purpose specified.

**72,958.**—CYRUS W. BALDWIN, Boston, Mass.—*Water Meter*.—December 31, 1867.—The circular box is divided by an elastic diaphragm into two chambers, each having an inlet and outlet aperture. The two inlet and two outlet apertures join in each pair in one. Valves connected with and operated by the diaphragm allow the liquid to alternately enter one chamber and escape from the other, and then reverse the order.

*Claim.*—First, the combination in a meter, such as described, with the valve rods and valves for regulating the flow of the liquid through the meter, of the flexible diaphragm and spring devices, or their equivalents, for operating the said valves, under such an arrangement that, while the valves and valve rods are partially actuated by said diaphragm they shall be caused to complete their movement in either direction by the action of the said spring devices, substantially in the manner set forth.

Second, the combination with the flexible diaphragm, slotted forks *o o'*, and sleeves *r r'* which carry the triangular wipers, of the valves *c<sup>1</sup> c<sup>2</sup>*, valve rods *s s'*, and spring devices for completing the movement of the said valves, in the manner and for the purposes shown and specified.

Third, the combination with the flexible diaphragm, valves for closing the outlet ports, and mechanism for actuating said valves, of the vibratory arms *z z* and valve *n* for closing the outlet port, substantially as shown and for the purposes described.

Fourth, the combination and arrangement with the valves *c<sup>1</sup> c<sup>2</sup>* and *n* and mechanism for actuating the same, of the ports for the admission and discharge of the liquid into and from the meter, substantially as herein shown and set forth.



## EXTENSIONS.

PINCKNEY FROST, Springfield, Vt.—*Scythe Fastening*.—Patented January 11, 1853, No. 9,531; reissued February 9, 1858, No. 524; extended January 7, 1867.

*Claim*.—The combination of the loop bolt and set riug, constructed and operating substantially in the manner above described and set forth.

ROBERT W. ANDREWS, Staffordville, Conn.—*Operating the Treadles of Looms*.—Patented January 18, 1853, No. 9,540; extended January 17, 1867.

*Claim*.—Operating each treadle by means of a mover having two outwardly acting cam surfaces of unequal lengths combined in one piece and producing the movements and retentions substantially as herein set forth.

Also, such a form and arrangement, respectively, of the treadles and their movers that the treadles can be reversed in their positions upon their fulcrums, and thereby cause a reversal of the movement and retentions of the said treadles, substantially as herein set forth.

WILLIAM and MATTHIAS STRATTON, Philadelphia, Pa.—*Portable Gas Apparatus*.—Patented February 1, 1853, No. 9,568; extended January 17, 1867.

*Claim*.—In the construction of the stove of removable gates C C in the ends B for the introduction of the retort, and the movable section G under the rosin holder, in the manner as set forth and shown.

GEO. W. BROWN, Galesburg, Ill.—*Seed Planter*.—Patented August 2, 1853, No. 9,893; antedated February 2, 1853; reissued February 16, 1858, No. 526; again reissued in 5 divisions, September 11, 1860; division A, No. 1,036, extended February 1, 1867.

*Claim*.—A seed-planting machine, constructed principally of framework, the front part of which is supported on not less than two runners or shoes, with upward-inclining edges, and the rear part supported on not less than two wheels, the latter being arranged to follow the former, substantially as and for the purpose set forth.

Same; division B, No. 1,037; extended February 1, 1867.

*Claim*.—The construction of a shoe or runner for seed-planting machines, with an upward-inclining edge, and its point sufficiently high or raised as that it will climb up and over, or cut and break through intervening obstacles without materially forcing the earth laterally at its front part, and widening towards its rear end so as to open out a gash or furrow in which the seed to be planted may be deposited, and long enough to furnish a support to the framework, substantially as described.

Same; division C, No. 1,038; extended February 1, 1867.

*Claim*.—In combination with a seed-planting machine, constructed principally of framework, with not less than two runners and not less than two wheels, a hinged joint between the point of the tongue and with the rear part of the machine, so that one part of the framework may be raised, lowered, adjusted, or supported on the other part, substantially as described.

Same; division D, No. 1,039; extended February 1, 1867.

*Claim*.—A seed-planting machine, wherein the seed-dropping mechanism is operated by hand or by an attendant in contradistinction from "mechanical dropping," the mounting of said attendant upon the ma-

chine in such position that he may readily see the previously made marks upon the ground, and operate the dropping mechanism to conform thereto, substantially as herein set forth.

Also, in combination with a seed-planting machine, composed substantially of framework, and upon which the person who works the seed slides or valves, sits or stands, a lever, or its equivalent, by which a driver or second attendant may raise or lower that part of the framework that carries the attendant and the seed-ing devices, and thus ease the machine in passing over the intervening obstacles, or in turning around, substantially as described.

JAMES E. A. GIBBS, Steel's Tavern, Va.—*Design for a Sewing Machine*.—Patented February 21, 1860, No. 1,206; extended February 14, 1867.

MOSES MARSHALL, Lowell, Mass., assignor to himself, W. ALDRICH, and L. B. TYNG.—*Knitting Machine*.—Patented March 15, 1853, No. 9,621; reissued October 25, 1864, No. 1,801; extended March 9, 1867.

*Claim*.—First, forming the stitches alternately on each side of the needle rest by two sets of needles placed at an angle to each other, and operating one needle at a time, substantially as described.

Second, the two plates or rests *e* and *f*, or their equivalents, so arranged as to support the two sets of needles, and allow the fabric knit to pass between them, substantially as described.

Third, connecting the cam boxes *i i*, which actuate the opposite sets of needles, by means of the arms *l l*, or its equivalents, so as to give the proper alternate and relative movements to said sets of needles, substantially as described.

Fourth, connecting the feeder, which carries the thread, with the arm which connects the cam boxes, substantially as and for the purpose described.

Fifth, two sets of single and independent needles crossing at an angle to each other, and those of each set moving in direct or parallel lines, and the two sets operating alternately on each side of said angle, substantially as and for the purpose described.

WM. and STEPHEN G. COLEMAN, Providence, R. I.—*Supporting the Topping Lift and Peak Halyard Block of Sail Vessels*.—Patented March 15, 1853, No. 9,619; extended March 13, 1867.

*Claim*.—The supporting the topping lift by means of a crane of such form and construction, that when the topping lift sags when the sail is hoisted, it shall not foul or chafe against the peak-halyard block.

Also, the so arranging and constructing such crane that it may also support the peak-halyard block, substantially as specified.

JOHN JAMES GREENOUGH, New York, N. Y.—*Machine for Pegging Boots and Shoes*.—Patented January 17, 1854, No. 10,427; reissued July 4, 1854, No. 269; again reissued April 26, 1859, No. 698, division 1; extended March 23, 1867.

*Claim*.—Driving the pegs into boots and shoes automatically, by means of a peg driver operated up and down by a positive mechanical movement, whether impelled by a cam, eccentric, or crank, or other equivalent, substantially as and for the purposes specified.

Same; reissue, No. 699, division 2; extended March 23, 1867.

*Claim*.—The moving the sole of the shoe along by means of the awl that forms the hole in which the peg is inserted, in combination with the peg driver,



whether the peg driver be or be not employed to perform the additional function of presenting the peg, whereby each hole made by the awl is brought in succession in line for inserting the peg before the awl is withdrawn, as set forth.

Same; reissue, No. 700, division 3; extended March 23, 1867.

*Claim.*—Cutting off shoe pegs from a strip of peg wood or other material, by means of a lateral or side cut, that will cut straight across, substantially as and for the purposes set forth when combined with suitable ways in which the strip slides, and machinery for driving the pegs, as specified.

Also, enclosing the peg by the cutter, until it is driven as specified, by making the cutter when in positive a part of the guiding tube, substantially as set forth.

Also, the combination of the endless feed of the cutter for severing the pegs in a shoe-pegging machine as above specified.

Same; reissue, No. 701, division 4; extended March 23, 1867.

*Claim.*—Connecting the last with a horizontal slide or plate, capable of presenting the shoe or boot, substantially as described, so that the shoe or boot attached thereto may be turned and moved in any direction in a horizontal or inclined course, in combination with a mechanism, substantially such as described, which tends constantly to force it upward against a rest or guide, but which will permit it to yield downward as described; but this combination only when combined with the pegging mechanism above described, or any equivalent therefor.

Also, as an automatic means of moving and guiding the last to present it to the pegging apparatus in the required line of pegging, the guide groove and guide and pinion and curved rack, substantially as described, in combination with the mechanism above described, or the equivalent thereof, which permits the last to be moved in any desired direction as set forth.

Same; reissue; No. 702, division 5; extended March 23, 1867.

*Claim.*—The combination of the universal movement carriage and lateral awl movement for properly presenting the shoe to receive the pegs in succession, as herein specified.

Also, the combination of the mechanism for the cutting and feeding of the pegs, as herein described, or any equivalent thereof, with the automatic peg driver as described.

Also, the combination of the following elements, or their mechanical equivalents, namely, the peg former, the peg feeder, the peg driver, and the mechanism for moving the shoe, herein described, thus constituting an automatic machine for pegging shoes, as set forth.

Same; reissue, No. 703, division 6; extended March 23, 1867.

*Claim.*—The pegging of boots and shoes with nails or pegs of drawn wire, substantially as above described.

Also, driving the pegs by means of the cutting nippers, said nippers cutting off the peg after it is driven, substantially as specified.

WM. SMITH, New York, N. Y.—*Weaving Corded Fabrics.*—Patented April 5, 1853, No. 9,653; extended March 28, 1867.

*Claim.*—The process of forming a fabric by the combination of stationary and movable warps with two weft threads, passed simultaneously through the two sheds, formed above and below said stationary warps, the weft threads being held in place on the surface of the stationary warps by the movable warps.

WM. WICKERSHAM, Boston, Mass.—*Sewing Machine.*—Patented April 19, 1853, No. 9,679; extended April 1, 1867.

*Claim.*—The combination of a single needle and two thread guides (carrying separate threads) so operated that during one passage of the needles through and out of the cloth or other material to be sewed one of the said guides shall lay its thread in the hook of the needle, while during the next passage of the needle through and out of the cloth the other guide shall

lay its thread in the hook of the needle, each guide acting alternately, all substantially as hereinbefore specified. And for the purpose of enabling a machine of the above description (or one in which two thread guides and a single needle are employed to sew with two threads) to be used for producing the chain stitch with one single thread passed through one of the two eyes *s t* of its two thread guides *H I*, as described, the improvement of making one of the said guides, viz, the guide *I* with the long slot *u* for receiving the thread in its passage to and through the other guide, as specified.

Also, the above described peculiar mode of sewing cloth, or other fabric, viz, by combining two threads with the fabric by drawing them through from the same side of the cloth and through each other's loops, interlooping them in plegma stitches so that the threads alternately bind each other, substantially as specified.

I do not claim a hooked needle having a contrivance such as either a lever turning on a fulcrum applied to, or a needle or wire made to extend and work through the shank of the hook, as is used in knitting machinery, but what I do claim in a sewing machine is the improved arrangement of applying the closing slide of the hooked needle to the same side as the barb or hook, so that it may slide in a groove in the needle or carrier parallel to the motion of the needle, in manner and for the purpose as specified.

ROBERT WADDELL, Liverpool, England.—*Balancing Slide Valves of Steam Engines.*—Patented June 6, 1854, No. 10,999; antedated April 27, 1853; extended April 1, 1867.

*Claim.*—First, the equilibrium table, with its ledges or other equivalents applied to and acting in combination with the valve, substantially as herein described.

Second, the packing pieces extending from the back of the valve chests and abutting against the back of the valve, in combination with the small passages leading to the ports, substantially in the manner herein described.

Third, combining the equilibrium table, or its equivalent, with the packing and small passages, by the joint action of which a slide valve is perfectly and entirely balanced.

WILLIAM H. JOHNSON, Springfield, Mass.—*Sewing Machine.*—Patented March 7, 1854, No. 10,597; reissued February 26, 1856, No. 355; extended April 15, 1867.

*Claim.*—First, the making of a seam with a single thread by the combination of a single needle, forked hook, and expanding lever, operating substantially in the manner and for the purposes herein specified.

Second, the forming or making of a seam from a single thread by the running of a loop of the thread through the material to be sewn, the running of a second loop through the material and putting the first loop through the second, the running of a third loop through the material and through the first named loop, the carrying of a fourth loop through the material and putting the third through it, and so on; putting the first loop through the second and around the third, the third loop through the fourth and around the fifth, and so on; forming the belaying double loop-stitch above described in the manner set forth.

Third, the feeding of the material to be sewn by means of a vibrating piercing instrument, whether said instrument be the needle itself, or an independent instrument in the immediate vicinity thereof, substantially as herein described.

A. J. WATTS, Utica, N. Y.—*Process for Preparing Gold.*—Patented April 26, 1853, No. 9,691; extended April 22, 1867.

*Claim.*—The within described processes of preparing or crystalizing gold for the purpose of filling teeth, substantially as herein set forth and described.

JOHN MEE, Lowell, Mass., assignor to JOHN ROURKE and G. MACKENNON.—*Knitting Loom.*—Patented May 10, 1853, No. 9,718; extended April 22, 1867.

*Claim.*—The two sets of thread guides, in combination with the two sets of needles, or their equivalents, and machinery for casting the loops, the whole being made to operate together substantially as here-



inbefore specified; not meaning to claim the invention of a single set of thread guides in combination with two sets of needles and machinery for casting the loops, as such is not new, but meaning to claim the invention of two sets of thread guides, in combination with two sets of needles, and machinery for casting the loops, all substantially as described and operating together to produce a ribbed net fabric, as explained.

Also, the improvement of causing the two sets of needles to work or move up and down independently of each other, or, in other words, so that one set may move downward, or be moved out of the way of the thread guides, to be brought into operation on the other set, such improvement enabling the bringing or arranging of the two sets of needles close together, and thus make closer work than can be produced when the two sets of needles are made to move in one direction (either up or down) at the same time.

JOHN MEE, Lowell, Mass., assignor to JOHN ROURKE and J. MACKENNON.—*Warp Net Fabrics*.—Patented May 10, 1853, No. 9,719; extended April 22, 1867.

*Claim*.—The above described new or improved manufacture of warp knit fabric, the same being made by means of two sets of hooks or needles, and two sets of wards or warp yarns, laid and looped together and upon the said hooks or needles, substantially in the manner as hereinbefore specified, and whether to exhibit ribs to equal or unequal widths on opposite sides of the fabric, as explained.

JAMES S. TAYLOR, Danbury, Conn.—*Machine for Shrinking Hat Bodies*.—Patented May 3, 1853, No. 9,700; extended April 24, 1867.

*Claim*.—The process of shrinking or sizing the hat bodies by passing them longitudinally into or through a chamber formed by placing several cylinders or rollers (having concave or other denomination of surfaces) in such a proximity as to form the said chamber as hereinbefore substantially as set forth.

THOMAS J. SLOAN, New York, N. Y.—*Machine for Pointing and Threading Screw Blanks*.—Patented April 26, 1853, No. 9,688; extended April 24, 1867.

*Claim*.—Combining in an organized machine a cutter and its appendages, operated substantially as specified for forming the point on screw blanks, as specified, with the chaser or cutter which cuts the thread over the shank and pointed part thereof down to the point, substantially as specified.

ALEX. J. WALKER, New York, N. Y.—*Spirit Lamp*.—Patented May 24, 1853, No. 9,751; extended May 20, 1867.

*Claim*.—The employment of the plate B, which serves as a protection against the fluid rising too high and becoming heated and exploding, and also as a support for the inner tubes, in combination with the spiral spring E and rod F, the rod serving to connect the said plate with the top of the lamp and the spring serving to hold the plate B firmly down on the flange D, and also to throw up the cap and extinguishing tubes instantaneously after the top has been unscrewed, the whole being constructed, arranged, and operating in the manner herein shown and described.

JAMES REES and ROBERT CRICHTON, executors of the estate of H. CARTER, deceased, and JAMES REES, Pittsburg, Pa.—*Nut Machine*.—Patented November 22, 1853, 10,249; antedated June 3, 1853, No. 10,249; extended May 20, 1867.

*Claim*.—The arrangement of the devices, substantially as herein described, for reducing the end of the blank bar to a given thickness, preparatory to severing the blank, whereby nuts of uniform thickness are produced from bars of irregular thickness, and the machine is protected against injurious strains.

H. L. SMITH, Gambier, Ohio, assignor to O. and L. BUTTLES and H. A. SWIFT.—*Paper Files*.—Patented June 7, 1853, No. 9,776; extended May 20, 1867.

*Claim*.—The paper file, herein described, with prepared adhesive leaves or margins, as a new article of manufacture.

RALPH J. FALCONER, Washington, D. C.—*Hose Coupling*.—Patented June 7, 1853, No. 9,768; reissued

February 27, 1866, No. 2,181; extended May 20, 1867.

*Claim*.—First, the hose coupling, consisting of two parts so constructed and applied that they shall be secured when brought together by a movement transversely to the direction of the water course, as set forth.

Second, the means herein shown and described, by which the two parts of the coupling can be linked or held in position to advance and complete the joint, as set forth.

Third, a hose coupling in which one of the parts is set or pressed up against a washer imbedded in or permanently secured to the face of the other part, as herein set forth.

HARVEY MURCH, Lebanon, N. H.—*Mop Head*.—Patented June 14, 1853, No. 9,781; extended May 20, 1867.

*Claim*.—The improved mop head, composed of the fixed cross head B, which has grooves in its lower side and end, in combination with the sliding binder C that terminates in a notched shank c, and passes through the loop a on the handle A, which serves as a detent in consequence of the action of the spring d on the under side of the said shank, substantially as herein set forth.

GEORGE N. REED and PERCIS L. TUTTLE, Geneva, N. Y., administrators of the estate of JOSEPH H. TUTTLE, deceased.—*Saw*.—Patented June 21, 1853, No. 9,807; extended June 4, 1867.

*Claim*.—The combination, arrangement, and location upon the same blade of the sets of fleam teeth for scoring the sides of the kerf, and the sets of planing teeth for removing the wood between the scores when said planing teeth are placed back to back, curve in opposite directions, and are between the sets of fleam cutters and at sufficient distances apart, so that each planing tooth shall serve alternately as a gauge to its fellow while allowing it to cut to a proper depth, and be a permanent guide to the fleam cutters, to prevent any of the teeth from taking too rank a hold upon the wood, which makes it run with great ease and efficiency, and is applicable to slitting or cross-cutting, substantially as described.

GILES F. FILLEY, St. Louis, Mo.—*Cooking Stove*.—Patented June 14, 1853, No. 9,788; reissued December 27, 1859, No. 873; extended June 8, 1867.

*Claim*.—The flaring enlargement of the side flues C C and D D from the space above the oven to the flue space E, which extends under the entire front end of the oven, and also the flaring enlargement of the central flues F and G from the flue space E to the upper end G, for the purpose of increasing the draft of the stove, substantially as herein set forth.

Also, separating the front of the oven from the front plate of the stove, and also from the hearth plate and from the back plate of the fire chamber by means of the flue space H, which communicates freely with the flue space E, and is closed at all other points, the said arrangement enabling the flue space H to arrest the great amount of heat that will be radiated from the back plate of the fire chamber, and conduct the same, by means of the circulation which it will create in said flue space, into the flue space E, for the purpose of producing the beneficial results herein particularly set forth.

GEORGE SHARP, Philadelphia, Pa.—*Design for a Spoon Handle*.—Patented January 5, 1864, No. 1,880; extended June 10, 1867.

C. DUCKWORTH, Mount Carmel, Conn.—*Loom*.—Patented June 28, 1853, No. 9,815; reissued July 4, 1865, No. 2,018; extended June 14, 1867.

*Claim*.—First, a power loom which is provided with many-celled shuttle boxes, the movements of which are automatically controlled in such manner that the cells of the boxes can be skipped over and any desired shuttle thrown from any box in the combination, according to the character or figure to be woven, substantially as described.

Second, providing for operating many-celled shuttle boxes, so as to bring any desired shuttle into action by means of pawls, ratchets, and reversible tappets, in combination with pattern surfaces, which will control the figure to be woven, substantially as described.



Third, the use of tappets, which receive both a rotary and an oscillatory motion from a pattern or patterns, in combination with many-chambered shuttle boxes, substantially as described.

Same.—*Power Loom*.—Reissue, No. 2,193, division A, March 13, 1866; extended June 14, 1867.

*Claim*.—The combination of a reversible ratchet mechanism with the reversible revolving tappets used in the loom to move the shuttle boxes in a vertical direction, substantially as and for the purpose described.

Also, the combination of the pattern mechanism of the loom with a reversible ratchet mechanism and the reversible revolving tappets, substantially as and for the purpose described.

Same; reissue, No. 2194, division B, March 13, 1867; extended June 14, 1867.

*Claim*.—First, giving alternate movement to the shuttle boxes in a horizontal plane by means of pawls, reversible tappets, and a contrivance which will automatically control the movements of said pawls, substantially as described.

Second, giving an alternate diagonal movement to the shuttle boxes by means of pawls, reversible tappets, and a contrivance which will automatically control the movements of said pawls, substantially as described.

Third, the combination of reversible tappets with shuttle boxes, which are so applied to a loom that they will admit of being moved either laterally, vertically, or diagonally, substantially as described.

Fourth, giving an intermittent oscillating or rotary movement to a shuttle box actuator by means of pawls and ratchet wheels, which are controlled by cam surface *t*, or its equivalent, substantially as described.

Fifth, the use of tappets, which receive a forward and backward movement or a continuous rotary movement, in combination with many-chambered shuttle boxes at both ends of the lathe, which boxes are connected together by a lever *G*, and operated simultaneously by means of said tappets, substantially as described.

Sixth, giving a reciprocating movement to many-chambered shuttle boxes of looms by means of contrivances which are controlled automatically, in such manner that the boxes are moved a greater or less distance by a single vibration of the lathe, so as to throw the shuttles in regular order, or to skip a shuttle, according to the figure which it is desired to weave, substantially as described.

E. HIDDEN, New York, N. Y.—*Side Light for Ships*.—Patented June 21, 1853, No. 9,811; reissued September 8, 1863, No. 1,553; again reissued March 15, 1864, No. 1,638; extended June 20, 1867.

*Claim*.—First, the combination, substantially in the manner described, of a turning flange, arranged, shaped, and operating substantially as specified, with a glass frame and suitable interposed packing, whereby the packing may be compressed and the frame held shut or have liberty to open, under a mode of operation substantially as set forth.

Second, in combination with a glass frame and a turning flange, substantially such as are described, a pin and a stop, operating substantially as set forth.

Third, a stationary frame with projecting lugs, having long mortises therein, in combination with pins projecting from a glass frame, both substantially as herein set forth, so that the glass frame may be opened and shut, substantially as set forth.

Fourth, in combination with a stationary frame attached to the side or deck of a vessel, a sleeve or ring of lead or other ductile metal, soldered or otherwise joined thereto, so that it can be flanged or turned over the edge of the opening through the vessel, thereby making the joint between the stationary frame and the vessel water tight, substantially as described.

WILLIAM MANN, Philadelphia, Pa.—*Manufacturing Copying Paper*.—Patented January 11, 1853, No. 9,536; antedated July 11, 1852; extended by act of Congress approved February 28, 1867; by office June 20, 1867.

*Claim*.—The copying paper, herein described,

composed of manilla fiber, or the equivalent thereof, tempered with cotton, or its equivalent, substantially as herein set forth.

LUCY A. POPE, administratrix of the estate of A. R. POPE, deceased, Somerville, Mass.—*Electro-Magnetic Alarm*.—Patented June 21, 1853, No. 9,802; reissued June 8, 1858, No. 566; extended June 20, 1867.

*Claim*.—First, the mode of breaking and completing the circuit, or vice versa—that is, by the spring circuit breaker operating to cause the vibration of the armature.

Second, so combining a hammer and bell with the self-vibrating armature, that the vibrations of the latter shall produce a continued ringing of the bell under circumstances substantially as described.

Third, the combination of these parts, (viz: the circuit breaker, hammer, bell, and vibrating armature,) or their equivalent or equivalents, with a self-acting spring or key in a door or window, to operate so as not only to bring them automatically into action when the door or window is open, but maintain a continuous or continued ringing of the bell by the interruption of the electric current without intervention of other machinery.

WM. S. HYDE, Townsend, Ohio.—*Cultivator Plow*.—Patented June 21, 1853, No. 9,798; extended June 20, 1867.

*Claim*.—The cultivator herein described, with adjustable wings, so constructed as to cultivate the soil superficially near the roots of the plants and deeper at a distance therefrom, the wings being adjustable to any required angle with the bottom of the furrow, so as to give any desired degree of inclination to the sides of the ridges or hills and to change their inclination from time to time to adapt them to the varying stages of the growth of the plant, the whole being constructed and operating as described.

S. C. BLODGETT, Bridgeboro', N. J.—*Hemming and Cording Umbrella Covers*.—Patented January 3, 1854, No. 10,386; antedated July 3, 1853; extended June 21, 1867.

*Claim*.—The guide for cording or hemming umbrella covers, arranged upon a stand with a curved slot to fold the hem around the cord and a hole through which the cord is passed to its place; and this whether the guide be used alone or attached to a sewing machine.

LAUREN WARD, Naugatuck, Conn., administrator of the estate of RICHARD WARD, deceased.—*Machine for Turning Irregular Forms*.—Patented June 28, 1853, No. 9,822; extended June 27, 1867.

*Claim*.—The combination of the jointed levers *n* and *n*, suspended by their upper ends with the crank *j* and connecting rod *k*, when so constructed and arranged as to elevate or depress the inner part *O* of the carriage, and the toothed cutter *c*, in such a manner as to give a regular elliptical form to the polygon where the opposite longitudinal sections will be equal and similar, when the whole is constructed, arranged, and combined substantially as herein described.

Also, the use of the notched collet *d* on the toothed center *c* and the curved bar *Y*, in combination with the jointed levers *n* and *n*, to give regular and irregular forms to different parts of the same elliptic polygon, when the whole is constructed and combined substantially as herein described.

WILLIAM E. WARD, Port Chester, N. Y.—*Heading Screw Blanks, Rivets, &c.*—Patented December 28, 1852, No. 9,508; extended by act of Congress, approved March 2, 1867; by office July 6, 1867.

*Claim*.—In combination with the swedge header and die plate, substantially as specified, the giving of a back or reeding movement at the end of the heading operation to the follower, against which the point of the rod rests during the heading operation, substantially as specified, that the rod or wire may be upset outside of the die, while resistance is made by the follower against the end of the rod, and then, as the follower retires, cause the part so upset to be gripped between the surface of the die and the swedge to complete the form of the head, the surplus metal being thereby forced into the shank, as set forth.



RICHARD MONTGOMERY, New York, N. Y.—*Sheet Metal Beam*.—Patented July 12, 1853, No. 9,842; reissued July 2, 1867, No. 2,668; extended July 8, 1867.

*Claim*.—A beam formed of sheet metal bent into a series of longitudinal folds, the sides of which are flat and parallel, and the tops and bottoms uninverted and inverted arches, respectively.

Also, the combination with such beam of a pair of saddles to support its ends, substantially as herein set forth.

SIMON M. ELDER, Portland, Me., administrator of the estate of JOHN A. ELDER, deceased.—*Curving the Backs of Books*.—Patented July 26, 1853, No. 9,886; extended July 8, 1867.

*Claim*.—First, hanging the frame carrying the pressure roller K upon and eccentrically to the centre of motion of the arms F, so that the center of motion of the frame can be raised at pleasure, in the manner and for the purposes described.

Second, the combination of the wedge M and bars W and V, when connected with the jaws of the clamps, as described, for the purpose of keeping the centre of the book, whatever its thickness, vertical with the bearings G of the swedging frame U, as described and set forth.

GEORGE T. PARRY, Philadelphia, Pa., assignor to JOHN RICE.—*Anti-Friction Box*.—Patented August 2, 1853, No. 9,912; extended July 15, 1867.

*Claim*.—Making the rollers in the form of double frustums reversed, and united at their bases and traveling in circular grooves of nearly corresponding form of the surfaces between which the rollers are interposed, substantially in the manner and for the purpose herein specified.

ISAAC BROWN, Cecilton, Md.—*Driving Reciprocating Saws*.—Patented July 19, 1853, No. 9,855; reissued February 3, 1857, No. 425; extended July 18, 1867.

*Claim*.—The mode, herein described, of applying the power of the engine to the saw gate or frame, without being permanently connected therewith, so that the piston shall be in a great measure relieved from any lateral motion which the gate may have which causes it to bind or cut in the cylinder, substantially as described.

Also, driving one or more saws between two cylinders, as well as driving one or more saws on each side of a single cylinder, and the self-adjusting piston rod, or the self-adjustable slides, which accomplish the same results as are hereinbefore described.

EDMUND MUNSON, Utica, N. Y.—*Eye for Millstones*.—Patented July 19, 1853, No. 9,859; extended July 18, 1867.

*Claim*.—The spiral wings, arranged in such manner as to perform the double office of feeding the grain and supporting the stone.

JAMES C. COOK, Middletown, Conn.—*Machine for Forming Button Backs and Connecting the Eyes Thereto*.—Patented July 27, 1852, No. 9,146; reissued April 7, 1863, No. 1,446; extended by act of Congress approved February 22, 1867; by office July 29, 1867.

*Claim*.—First, the jointed clamps *ii* (Fig. 2) and the tongue *n*, (Figs 1, 3,) to form the eye, when combined with the slide L, with its stationary and movable jaw *a* and *b*, the movable jaw and slide being worked by a jointed lever *c c'* to feed the wire, the whole constructed and operated substantially as described.

Second, the die for punching and forming the button back, composed of the punch S and bed Q, when combined with the slide *p p* and feeding cylinder P, when constructed and operating substantially as described.

The jointed fingers *u u*, for receiving the button back when formed and punched, and conveying it to and placing it on the eye, when combined with the setting and riveting punch U, when arranged, combined, and operated substantially as described.

Fourth, holding the eye of the button in the mechanism that forms the eye until and while the back is placed upon and fastened to it.

A. H. MCKINLEY, Higginsport, Ohio.—*Socket for Auger Handles and Braces*.—Patented August 16, 1853, No. 9,939; extended July 29, 1867.

*Claim*.—The peculiar arrangement of mechanism by which it enables the shipping and unshipping of the bit and handle of an auger or other boring tool; that is to say, the socket having a circular head and vibrating cap, whose aperture can be made at one position to coincide with the mouth of the socket, and in the other position to oppose its straight edges to the projecting corners of the shank, the cap being retained in the desired position by spring and notch, as described, or its equivalent.

WILLIAM MILLER, Pensacola, Fla., administrator of JOSEPH R. MILLER, deceased, Jersey City, N. J.—*Submarine Tunnel*.—Patented August 2, 1853, No. 9,899; reissued March 12, 1867, No. 2,504; extended July 30, 1867.

*Claim*.—The construction, arrangement, and formation of submarine and subterranean avenues by means of cast iron sections, united together by flanges and bolts, in the manner and for the purpose herein described.

JOHN KRAUSER, Tylersburg, Pa.—*Cider Mill*.—Patented August 30, 1853, No. 9,972; reissued October 11, 1864, No. 1,793; extended August 13, 1867.

*Claim*.—First, so locating the hopper as that the substance to be ground shall be delivered upon that portion of the piston or crusher which shall be within the hopper when thrust forward, or into the space formed by the withdrawal of the same when thrown backward.

Second, operating the pistons or concaves of a cider mill by means of eccentrics, whether said pistons be arranged, as in Figs. 1 and 2, to move in a straight line, or be pivoted at top and bottom, as in Figs. 8 and 9.

Third, the concave *k'*, arranged to operate in combination with the pistons P or with the concaves *d*, as and for the purposes set forth.

Fourth, so locating the hopper with reference to several operating parts of the machine that the fruit or other substances contained therein shall not rest directly upon or against the roughened exterior of the grinding cylinder, but directly upon so much of the upper surface of the anterior ends of the pistons or plungers as shall be found operating or exposed within its inclosed sides, for the purpose of agitating the incumbent substance, so as to insure and facilitate the filling of the cells as the pistons recede from the cylinder; and in the second place, which is a consequence of the first, viz., to cause the incumbent substance to press upon the cumbent, or that contained within the cells, so as to oppose the upheaving or ejection of the same while in the act of being pressed against the passing teeth of the revolving cylinder *c* by the action of the alternating pistons or plungers, as herein more fully described and set forth.

SAMUEL DARLING, Bangor, Maine.—*Apparatus for Grinding and Shaping Metals*.—Patented August 30, 1853, No. 9,976; extended August 15, 1867.

*Claim*.—The combination of the holder of the article to be ground with a grindstone or grinding disk, substantially in the manner herein set forth, so that the article and the stone will change positions relatively to each other during the operation in three directions, namely, towards each other, and parallel with and transversely to the axis of the stone.

THOMAS CROSSLEY, Bridgeport, Conn.—*Printed Carpet*.—Patented August 16, 1853, No. 9,935; extended August 15, 1867.

*Claim*.—As a new article of manufacture a single ply printed carpet, made by combing the warps and filling, in the manner described, and subsequently printing them on one or both sides.

CHARLES WATT and HUGH BURGESS, London, England.—*Pulping and Disintegrating Vegetable Substances*.—Patented July 18, 1854, No. 11,343; antedated August 18, 1853; reissued October 5, 1858, No. 608; again reissued in two divisions, April 7, 1863, viz., No. 1,448.—*Pulp from Wood, &c., for the Manufacture of Paper*.—Extended August 17, 1867.

*Claim*.—A pulp suitable for the manufacture of



paper, made from wood or other vegetable substances by boiling the wood or other vegetable substance in an alkali under pressure, substantially as described.

Same, No. 1,449.—*Process of Treating Wood or other Vegetable Substances in the Manufacture of Paper Pulp*.—Extended August 17, 1867.

*Claim*.—First, the process of treating wood or other vegetable substance by boiling in an alkali under pressure, as a process, or preparatory process for making pulp for the manufacture of paper from such woods or other vegetable substances, substantially as described.

Second, the process of treating resinous woods by boiling in an alkali under pressure, and treating the product with chlorine and its compounds with oxygen, for making white pulp for the manufacture of paper from such woods, substantially as described.

STEPHEN MORSE, Springfield, Mass.—*Iron Car Brake*.—Patented September 6, 1853, No. 10,004.—Extended August 19, 1867.

*Claim*.—The spinc B having the point of suspension C and socket D, with the open spaces *c c* and brace plates *b b*, in combination with the rubber or friction surface plate A, substantially in the manner and for the purpose as is herein set forth.

HENRY RITCHIE, Newark, N. J., assignor to himself, S. C. THOMSON, and GEORGE W. WESTERFIELD.—*Padlock*.—Patented August 23, 1853, No. 9,963; extended August 22, 1867.

*Claim*.—The combination of the bolt C, guard E, and the double-toothed tumbler D; one tooth *n* of said tumbler fitting in the shackle *d*, and the other tooth *j* fitting in the notch at the back of the bolt. The bolt, guard, and tumbler operating as set forth in the body of the specification.

OLIVER P. DRAKE, Boston, Mass.—*Apparatus for Combining Hydrocarbon Vapor with Air*.—Patented August 30, 1853, No. 9,967; reissued November 15, 1864, No. 1,819; extended August 29, 1867.

*Claim*.—The vaporizing chamber and rotary blowing apparatus combined, in the manner and for the purpose substantially as set forth.

Also, the combination of the vaporizing chamber and rotary blowing apparatus, under the general arrangement described, with a weight, or its equivalent, acting with a uniform force, so that the pressure at the burner is uniform, whether a greater or less quantity of the mixed air and vapor is burnt.

Also, the combination of the vaporizing chamber with the mechanical agitator, for the purpose of agitating the liquid during the mixture of the vapor with air, substantially as set forth.

Also, the combination of the heater and gas burner with the water vessel and vaporizing chamber, substantially as specified, so that by means of the said heater and gas burner and the pipes connecting them with the water vessel and the chamber, the whole or part of the mixture of air and benzole vapor produced by the apparatus may not only be used in any convenient place for the purpose of illumination, but also for heating the water of the vessel, substantially as set forth.

Also, the combination of the closed vaporizing chamber, the rotary vaporizer or disseminator placed therein, and the rotary meter wheel and its closed case, or an air-forcing apparatus, so made as to force a stream of air into the hollow shaft of the vaporizer and through or against saturated portions of the disseminator and into the vaporizing chamber or regenerator, so as to vaporize the benzole or hydrocarbon and mix it with air, substantially as above specified.

Also, in combination with the rotating meter wheel and its case and the hot-water vessel, the coiled induction air pipe, as made to pass through the water in the vessel and thereby receive heat therefrom, so as to warm the air as it passes through the pipe and to supply oxygen to the volatilized vapors, and for the purpose of facilitating the evaporation of the same.

Also, in combination with the induction air pipe, the chamber, and its regulator slide and orifice, applied for the purpose of supplying cold air to the warmed air or to the meter wheel, in order to diminish or regulate the temperature of the air passage into the said wheel, and forced into the vaporizing chamber.

Also, the peculiar mode of making the rotary dis-

seminator or vaporizer, viz, of two perforated heads or disks, a hollow perforated shaft, and strands of lamp wicking or other absorbent material stretched from one head to the other, as specified.

THOMAS D. BURRALL, Geneva, N. Y.—*Corn Sheller*.—Patented December 6, 1845, No. 4,300; extended December 6, 1859; reissued October 10, 1865, No. 2,083; extended by act of Congress approved March 2, 1867; by office September 2, 1867.

*Claim*.—First, the opening *d*, in combination with the plate or disk *c* and the sheller, substantially as and for the purpose described.

Second, the open space between the lower edge of the sheller and the plate or disk *c*, in combination with the said plate or disk and the sheller, substantially as and for the purpose described.

PHILO SYLLA, Elgin, and AUGUSTUS ADAMS, Sandwich, Ill.—*Grain and Grass Harvester*.—Patented September 20, 1853, No. 10,038; reissued May 17, 1859, No. 721, A; extended September 19, 1867.

*Claim*.—First, an elevated binding table, in combination with the platform for receiving the grain as it is cut, substantially as set forth.

Second, the combination with the binding table of more binders' stands, on a lower level than that of the table, substantially as set forth.

Third, the combination of a binding table with a binders' stand, having an elevated side for the binder to rest his legs against, and thereby steady himself without the aid of his arms, both of which are thus left at liberty to do the binding, substantially as set forth.

Fourth, the arrangement of the rakers' and binders' stands, substantially as herein set forth, so that the grain may be raked from the platform and delivered upon the binders' table before the several binders' stands, in the manner substantially as set forth.

Fifth, the arrangement of the dumping tray with the rakers' and binders' stands, substantially as set forth.

Same; reissued May 19, 1859, No. 722, B; again reissued May 14, 1867, No. 2,608; extended September 19, 1867.

*Claim*.—First, the combination of a finger beam with slotted guard fingers, a reciprocating scalloped cutter, a double-hinge connection between the finger beam and the main frame, and a driving shaft for the cutting apparatus parallel, or nearly so, to the ground.

Second, the combination of a double-hinge floating finger beam with slotted guard fingers, a reciprocating scalloped cutter, and a removable platform, for converting the machine from a mower to a reaper.

Third, the combination of a finger beam with slotted fingers, a reciprocating scalloped cutter, a hinged connection to the main frame, a removable platform, and a reel.

Fourth, the combination of a finger beam with slotted fingers, a reciprocating scalloped cutter, a hinged connection to the main frame, and arms or levers, or their equivalents, for adjusting the height of the cutting apparatus.

Same; reissued May 17, 1859, No. 723, C; extended September 19, 1867.

*Claim*.—The short finger beam, in combination with the yielding connection with main frame, or its equivalent, substantially as herein set forth.

Same; reissued May 17, 1859, No. 724, D; extended September 19, 1867.

*Claim*.—The combination of the finger beam with the hinges by which it is drawn, arranged above the plane of the cutter, substantially as herein set forth.

Same; reissued May 17, 1859, No. 725, E; extended September 19, 1867.

*Claim*.—The combination of a counterpoise weight, or the equivalent thereof, with that end of the finger beam next the main frame, to equalize its pressure upon the ground, substantially as set forth.

Also, the combination of a counterpoise weight, or the equivalent thereof, with each or either end of the finger beam, to diminish its pressure upon the ground, substantially as set forth.



Same; reissued May 17, 1859, No. 726, F; extended September 19, 1867.

*Claim.*—The combination of a stop with the mechanism for connecting the finger beam with the main frame, and allowing it to rise and fall, substantially as herein set forth.

EPHRAIM L. PRATT, Boston, Mass., assignor to JAMES SARGENT and DAN'L P. FOSTER.—*Machine for Paring Apples.*—Patented October 4, 1853, No. 10,078; extended September 23, 1867.

*Claim.*—Hanging or connecting the block S which carries the knife to the rod which carries said block, so that the block and knife can vibrate in one or either direction, by means substantially such as are herein described, or their equivalents, so as to allow the knife to vibrate and accommodate itself to any irregularity in the surface of the apple or vegetable pared, substantially as described.

JOSHUA GIBBS, Canton, Ohio.—*Machine for Grinding Plow Castings.*—Patented October 4, 1853, No. 10,068; extended September 27, 1867.

*Claim.*—The carriage upon which the casting is fastened with the weight and grooved stand upon which the carriage is moved, arranged and operated as described.

NATHANIEL GEAR, Marietta, Ohio.—*Machine for Turning or Cutting Irregular Forms.*—Patented November 8, 1853, No. 10,204; extended September 30, 1867.

*Claim.*—The combination of knives, in the manner described, with a rotary cutter head, so that said head shall serve as a guide or directrix to the form or pattern carrying the material to be dressed.

NORMAN MILLINGTON and S. M. GEORGE, Shaftsbury, Vt., ABRAHAM B. GARDNER, Bennington, Vt., and LELAND J. MATTISON, Cleveland, Ohio, executors of the estate of DENNIS J. GEORGE, deceased.—*Machine for Figuring Carpenters' Squares.*—Patented October 18, 1853, No. 10,136; extended October 4, 1867.

*Claim.*—The combination of the revolving chase wheel W with the lateral moving anvil A, by which the relative position of the square to be stamped and the required chase is so regulated that the line of the square to receive the impression is brought under the chase containing the desired figures, substantially as herein set forth.

HENRY WHITAKER, Buffalo, N. Y.—*Application of High-pressure Engines to Screw Propellers.*—Patented October 18, 1853, No. 10,145; extended October 4, 1867.

*Claim.*—The direct application of the crank outside of the hull to side-screw propellers, when such application is combined with or effected by a high-pressure engine, arranged also outside of the hull substantially as herein above set forth.

DAVID M. SMITH, Springfield, Vt.—*Spring Clamp for Clothes Lines.*—Patented October 25, 1853, No. 10,163; extended October 14, 1867.

*Claim.*—The above described improved clothes pin, that is to say, the arrangement of the line opening D and the spring C, on opposite sides of the hinge a of the two levers A B, all substantially as hereinbefore specified, whereby by pressure of the longer legs of the levers between the thumb and fingers of the hand of a person, the instrument is rendered very convenient of application without danger during the same of tearing the clothes secured by it on a line.

BERNARD HUGHES, Rochester, N. Y.—*Trip Hammer.*—Patented May 16, 1854, No. 10,923; extended October 18, 1867.

*Claim.*—Adding to the stem or rod of the trip hammer a piston working in a cylinder, open on the upper end and closed at the bottom, and provided with regulating cock and valve, substantially as described, by which means I am enabled to add the whole or such part of the pressure of the atmosphere as may be desirable to the weight of the hammer in giving the blow.

SAMUEL PRATT, Hammonds-ton, N. J.—*Screw Nail.*—Patented October 25, 1853, No. 10,171; extended October 23, 1867.

*Claim.*—A screw nail constructed with a thread shaped substantially as herein described.

Also, shaping the head, substantially as herein set forth, so that the battering caused by the driving will not obstruct the application of the turn-screw.

DANIEL NOYES, Abington, Mass.—*Machine Hammer.*—Patented October 25, 1853, No. 10,170; extended October 24, 1867.

*Claim.*—First, a machine for hammering iron, &c., having the distinguishing features hereinabove enumerated, viz, a hammer for giving the blow upon the upper surface of the iron, acting in conjunction with two hammers, which simultaneously strike the sides of the iron, substantially as above set forth; and, further, in a machine for hammering iron, the use of these two side hammers operating as specified, whether used in connection with the upper hammer or without it.

Second, so arranging the relative position of the fulcrum of the hammer beams, and the ends of the connecting rods attached to said beams, and to the crank shaft and gears from which they derive their motion, as to bring the said fulcrum and connecting rods in nearly a straight line at the time of giving the blow, for the purpose above specified, the opposite ends of the connecting rods just before giving the blow moving in opposite directions, so as to give a rapid and powerful blow.

Third, causing the anvil to descend from the iron just before the blow of the side hammers, and to ascend just before the blow of the upper hammer, by means of a rod attached at one end to the under side of the upper hammer beam, and at the other end to a tilting arm which embraces the anvil, substantially as above described.

ROBERT SINCLAIR, Jr., and RICHARD F. MAYNARD, Baltimore, Md.—*Feed Roller of Straw Cutters.*—Patented November 15, 1853, No. 10,238; extended October 28, 1867.

*Claim.*—In the feeder for straw cutters, the employment thereon of alternate right and left fins so arranged as to form a double spiral or screw, said fins being formed substantially as set forth, and operating together so as to prevent the straw from crowding to the right or left, and to compress the straw laterally as it is passed to the knives, and constituting altogether what we denominate the double screw propeller for straw cutters.

CHARLOTTE B. THOMPSON, administratrix of the estate of JOHN H. THOMPSON, deceased, JAMES M. THOMPSON, and HOSEA Q. THOMPSON, Holderness, N. H.—*Machine for Trimming Soles of Boots and Shoes.*—Patented November 15, 1853, No. 10,239; extended October 29, 1867.

*Claim.*—A machine in which the sole is trimmed by revolving knives, and guided, as fed along by the operator, by an adjustable gauge bar, against which the edge of the pattern plate abuts, substantially as hereinabove described.

LAURA S. WHITE, Antrim, N. H., administratrix of the estate of JONATHAN WHITE, deceased.—*Uniting Shovel Blades to Handle Straps.*—Patented November 15, 1853, No. 10,244; extended October 29, 1867.

*Claim.*—The uniting by welding of the iron handle straps to the sheet cast-steel blade, in the manner substantially as herein set forth.

E. T. BUSSELL, Indianapolis, Ind.—*Combined India-rubber and Steel Spring.*—Patented November 29, 1853, No. 10,280; extended November 12, 1867.

*Claim.*—Fluting a column of vulcanized india-rubber longitudinally, and then so surrounding it with the helical spring; being an improvement upon Ray's spring.

GEORGE W. LIVERMORE, Cambridgeport, Mass.—*Machine for Making Barrels.*—Patented March 21, 1854, No. 10,680; extended November 12, 1867.

*Claim.*—First, forming or shaping the staves previous to jointing them by passing them through a series of pairs of curved rollers in the manner set forth and for the purpose described.

Second, the peculiar construction of the carriage of the jointing machine, represented in Fig. 5, the bar g being made adjustable within the long slots or



mortises, in the manner set forth and for the purpose described.

Third, the combination of the cone Q' with the spring drivers g'', operating as described, for the purpose of guiding the hoop to the barrel and driving it into place, in the manner set forth.

WILLIAM BUTTERFIELD, Boston, Mass., assignor to himself and E. M. STEVENS.—*Sewing Machine*.—Patented July 4, 1854, No. 11,240; reissued to ELMER TOWNSEND, January 5, 1864, No. 1,600; extended November 20, 1867.

*Claim*.—Separating into two instruments a presser foot and a "rest cast-off," (both operating on the surface of the material to be sewed,) the "tube or holder" hereinbefore referred to, so that the "rest cast-off" can act independently of the presser foot as respects its times and extent of motion, substantially in the manner specified.

Also, constructing the "rest cast-off" of such a form that it operates and is located in front of the barb of the needle, instead of surrounding it, by which construction it operates in an improved manner, especially when sewing in narrow channels.

Also, making the "rest cast-off" adjustable with reference to the needle, substantially as described.

Also, the combination of a supporting surface crochet needle and presser foot with a "rest cast-off," operating substantially as described.

Also, the combination of a supporting surface crochet needle and feeding device with a "rest cast-off," operating substantially as described.

Also, the improvement by which the "rest cast-off" is rendered capable of adapting itself to any ordinary thickness or variation of the thickness of the fabric or article to be sewed, such improvement consisting in the above described mode of operating it by the spring F applied to the carrier lever E, and made to operate on the lower end of the recess C, as stated.

Also, the combination of the bobbin holder U with the spring V, the friction disk R, and the axle on which the holder turns, the same enabling an empty bobbin to be removed from the holder and a full one put in its place without disturbing the connection of the spring with the bobbin and friction plate or disk.

WILLIAM B. BATES, Mansfield, Mass., administrator of the estate of GEORGE WELLMAN, deceased.—*Stripping Top Flats in Carding Machines*.—Patented March 18, 1856, No. 14,481; antedated November 25, 1853; reissued July 30, 1867, No. 2,705; extended November 21, 1867.

*Claim*.—First, the combination of the segmental gear and its set rim or locking plate with the pinion and its locking plate or recess, as a device for imparting an intermittent rotation to mechanism from a continuous one, for the purpose of operating the stripping mechanism, or that which moves the cleansing frame, from one top card to another, substantially as described.

Second, the combination of the said device for producing intermittent rotation with the mechanism that lifts, strips, and lowers the top card, substantially as described.

Third, the combination of the said device for producing intermittent rotation with the mechanism that moves the cleansing frame from one top card to another, substantially as described.

Fourth, combining and arranging the segmental gear and its set rim or locking plate with the two pinions, each with its locking plate or recess placed on opposite sides of said segmental gear, so as to operate the stripping apparatus and move the cleansing frame alternately, substantially as described.

Fifth, the combination and arrangement of the mangle pins or teeth in the arc of a circle directly attached to the cleansing frame and concentric with its movement, for the purpose of avoiding intermittent gearing, substantially as described.

Sixth, mounting the stripper card upon radial arms that have their centers or axes below the stripper card and near the axis of the cleansing frame, substantially as described.

Seventh, the combination of the cams X X with the levers Y Y, carrying and operating the stripper card, substantially as described.

Eighth, the combination of the cams X X with the

lifting rods Z Z and the levers Y Y, arranged to operate in connection, substantially as described.

Ninth, the combination of the cams X X with the chain belts Q', the chain pulleys R', and shaft M, arranged and operating substantially as described.

Tenth, the combination of the guide E', on the cleansing frame, with the stationary guide D', on the frame of the machine, co-operating substantially as described.

Eleventh, the combination of the springs F' and the pins E' and lifting rods Z, and their application to the frame S, substantially as described.

Twelfth, the mechanism for cleansing the stripper card, arranged and applied substantially as described.

WILLIAM B. BATES, Mansfield, Mass., administrator of the estate of GEORGE WELLMAN, deceased.—*Stripping Top Flats for Carding Machines*.—Patented December 6, 1853, No. 10,298; reissued July 30, 1867, No. 2,706; extended November 21, 1867.

*Claim*.—First, the combination and arrangement of a continuously revolving radial arm and pin, or crank pin, and a circular locking plate connected therewith, with a series of intermittently revolving radial working grooves to receive said pin, connected with a locking plate provided with segmental recesses corresponding to said grooves and to the other locking plate, substantially as described.

Second, combining with the cleansing frame a mangle gear and the mechanism, herein described, for imparting an intermittent motion to the same, suitably arranged, by which the cleansing frame is moved from one top card to another in any order desired, in both directions, and held at rest while the cleansing operation is performed, substantially as described.

Third, so combining and arranging the cleansing frame, the mangle gear and pinion, and mechanism for giving it intermittent motion, when the motion of the cleansing frame is from one top card to the next but one, that when the pinion passes around the extremity of the series of pins or teeth of the mangle gear to the opposite side of the same, the distance of the point from where the pinion starts to where it stops on the mangle gear will correspond to the movement of the cleansing frame from one top card to the next to it, and thus shift the order of cleansing the top cards when the frame is moving in opposite directions, substantially as described.

Fourth, attaching the stripping card to radial arms, so arranged that by the oscillation of said arms the stripping card will be carried beneath the raised top card to cleanse the same, substantially as described.

Fifth, forming the working faces of the cams that raise the top cards in separate and detached segments, placed so as to act in succession, in combination with a series of projections or working surfaces on the device that raises the top cards, substantially as described.

Sixth, the combination and arrangement of the several correspondent parts of the mechanism, both new and old, so as to form a complete apparatus by which the top cards of a carding machine may be automatically stripped or cleansed, substantially as described.

JAMES WATT, Charlestown, Mass.—*Valve Arrangement for Steam Hammers*.—Patented December 6, 1853, No. 10,297; extended November 21, 1867.

*Claim*.—First, the revolving valve rod, the barrel g, and the adjustable screw stop l, constructed, arranged, and operating substantially in the manner described, by which it is enabled at any instant to admit the steam beneath the piston during any portion of the fall of the hammer, without altering the effective force and length of the stroke.

Second, in connection with the above, the arrangement for throttling the steam on its way from beneath the piston, by which means it is enabled to regulate the intensity of the blow of the hammer to any degree of nicety, or to hold the same suspended above the anvil, in the manner and for the purpose substantially as set forth.

LUCIAN B. FLANDERS, Philadelphia, Pa.—*Replacing Cars Upon Railroad Tracks*.—Patented December 6, 1853, No. 10,301; extended November 21, 1867.

*Claim*.—Replacing railroad cars and locomotives upon the track, or replacing the car wheels upon the



rails, in the manner substantially as herein described, viz, by means of flanges C C', having inclined bottoms and secured or attached to the rails, when designed to be used, by the lips or projections *b* on the sides *a* of the flanges, said lips or projections clasp- ing or fitting over the rails. The flange C', being provided with a movable guide E, which directs or guides the wheels upon the rails, and which guide, by being movable, will act upon the wheel, the flange C' being adjusted to either side of the rails.

CHARLES J. WOLLSON, Cleveland, Ohio.—*Design for a Stove Plate*.—Patented December 4, 1860, Nos. 1348, 1349; extended November 21, 1867.

RICHARD A. TILGHMAN, Philadelphia, Pa.—*Process for Purifying Fatty Bodies*.—Patented October 3, 1854, No. 11,766; antedated January 9, 1854; extended November 23, 1867.

*Claim*.—The manufacturing of fat acide and glycerine from fatty bodies by the action of water at a high temperature and pressure.

MELVIN JINKS, Dansville, N. Y.—*Turnkey*.—Patented December 13, 1853, No. 10,312; extended December 3, 1867.

*Claim*.—The adjustable claw E, constructed and arranged substantially as described, in combination with the claw *b*, and the rolling fulcrum having a limited motion.

L. OTTO P. MEYER, Newton, Conn.—*Processes of Vulcanizing Caoutchouc Compounds*.—Patented December 20, 1853, No. 10,339; extended December 4, 1867.

*Claim*.—The producing of smooth and glossy surfaces upon the hard compounds of caoutchouc and other vulcanizable gums by means of the use of oil or other equivalent substance applied to the surface of the prepared gum and between the gum and the plates of metal, or the molds, substantially as herein described.

JOSEPH NOCK, Philadelphia, Pa.—*Hinge for Ink stand Covers*.—Patented December 13, 1853, No. 10,310; extended December 10, 1867.

*Claim*.—The application of the stamped round part, and the solid part, (or the moving lid or cover,) fitted together as a hinge which forms a rounded, smooth-turned face, and the manner in which the pin is connected with both parts, as herein described, using for that purpose the aforesaid "two pieces to form a regular curvilinear or round-turned hinge" made of any materials which will produce the intended effect.

WILLIAM WISDOM, Brooklyn, N. Y.—*Cleansing Hair and Feathers from Insects, &c.*—Patented December 20, 1853, No. 10,347; extended December 10, 1867.

*Claim*.—Purifying hair and feathers by destroying all noxious insects or infectious matter contained therein by subjecting the same to a vapor bath of chlorine gas after the material has been cleansed by a bath of sal soda, in the manner and for the purpose specified.

ROBERT P. WALKER, New York, N. Y.—*Machine for Hulling and Scouring Coffee*.—Patented December 20, 1853, No. 10,328; extended December 13, 1867.

*Claim*.—The combination of the springing rubber flaps, or scourers and polishers *e e e*, with the angularly-set hullers or beaters *c d*, the whole being constructed and arranged in any equivalent manner to that herein described and operating as set forth.

EDWARD A. TUTTLE, Brooklyn, N. Y.—*Hot-air Register*.—Patented January 3, 1854, No. 10,371; reissued February 17, 1863, No. 1,412; extended December 16, 1867.

*Claim*.—So combining the connecting rod or arrangement which transmits motion to the fans, with the thumb piece or attachment by which it is actuated and with the fans themselves, that it shall rest and ride upon anti-friction bearings *o o* formed on the fans, substantially as above described.

WILLIAM WRIGHT, New York, N. Y.—*Operating Cut-off Valves of Steam Engines*.—Patented January 3, 1854, No. 10,398; extended December 16, 1867.

*Claim*.—The employment of a rotating concentric hub on which the toes (or their equivalents) of the lifters rest when the valves are closed, substantially as specified, when this is combined with a cam connected therewith and which turns eccentrically thereon, for the purpose of opening and closing the valve and regulating the period of closing the same, substantially as specified.

Also, combining with the said hub and cam a slide within them and acting on an oblique groove within the cam and a straight slot in the hub, substantially as specified, to determine the period of closing the valve, whilst the period of opening remains the same, as specified, and this whether the said slide be operated by a governor or by other means.

MATHEW STEWART, Philadelphia, Pa.—*Floor Plate of Malt Kilns*.—Patented January 3, 1854, No. 10,370; extended December 17, 1867.

*Claim*.—First, the characteristic mode in which are constructed the plates with downward edges at right angles with the surface of the plate, substantially and for the purpose as herein described and illustrated.

Second, the bearing and combining block with the peculiar arrangement of the slots or grooves, or its equivalent, substantially and for the purpose as herein described.

Third, the combination of the plates with the bearing and combining blocks, or its equivalent, and the peculiar manner of securing the plates and blocks down to the wrought-iron bars by means of the wire holes in the vertical edges of the plates, or their equivalents, substantially and for the purpose as herein described and illustrated.

WILLIAM H. SWEET, Foxborough, Mass., administrator of the estate of HENRY L. SWEET, deceased.—*Guide for Sewing on Binding*.—Patented December 20, 1853, No. 10,344; extended December 18, 1867.

*Claim*.—The doubling guide, as not only made with a flat mouth or one capable of receiving the ribbon, tape, or binding in a flattened state, but with a bent channel or slides, such as shall gradually bend or double it and discharge it at the other end in a doubled state ready to be applied to any article conveniently placed to receive it and leave it sewed thereon as stated.

HEZEKIAH B. SMITH, Smithville, N. J.—*Mortising Machine*.—Patented January 10, 1854, No. 10,422; extended December 26, 1867.

*Claim*.—The afore-described combination for reversing the chisel by power, applied by friction (with band or otherwise) and stops operated so as to stop the chisel when reversed in the manner essentially as set forth.

HARVEY LULL, Hoboken, N. J.—*Shutter Hinge*.—Patented January 31, 1854, No. 10,477; antedated January 2, 1854; extended December 31, 1867.

*Claim*.—The so forming of a self-locking shutter hinge, cast in two pieces, as that the blind or shutter hung thereon may swing open or shut on a horizontal plane, and lock when opened to its limit, and so that also when locked open, the strain shall be taken off from the spindle and thrown on to cam arms, and thus effectually relieve the spindle from the weight or strain of the shutter, substantially as described.







## DESIGNS.

**2,533.**—CHARLES C. BUCKLEY and LOUIS DOVELL, Newark, N. J.—*Trade Mark*.—January 1, 1867.

**2,534.**—R. P. COWLES, New Haven, Conn., assignor to COWLES & Co., same place.—*Coach Lamp*.—January 1, 1867.

**2,535.**—HARRISON EATON, Amherst, N. H.—*Stove*.—January 1, 1867.

**2,536.**—ORION FRAZEE, New York, N. Y.—*Medallion*.—January 1, 1867.

**2,537, 2,538.**—W. S. MINGIS, New York, N. Y.—*Round Comb*, (two patents.)—January 1, 1867.

**2,539.**—JOHN POLHAMUS, New York, N. Y.—*Handle of a Fork or Spoon*.—January 1, 1867.

**2,540.**—HORACE C. WILCOX, West Meriden, Conn., assignor to THE MERIDEN BRITANNIA COMPANY, same place.—*Handle of a Caster*.—January 1, 1867.

**2,541.**—HORACE C. WILCOX, West Meriden, Conn., assignor to THE MERIDEN BRITANNIA COMPANY, same place.—*Caster Frame*.—January 1, 1867.

**2,542.**—JOHN H. BELLAMY, Charlestown, Mass., assignor to himself and D. A. TITCOMB, same place.—*Picture Frame*.—January 8, 1867.

**2,543.**—JOHN H. BELLAMY, Charlestown, Mass., assignor to himself and D. A. TITCOMB, same place.—*Bracket*.—January 8, 1867.

**2,544, 2,545.**—DAVID K. HITCHCOCK, Newton, Mass.—*Medal*, (two patents.)—January 8, 1867.

**2,546.**—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON, same place.—*Floor Oil-cloth*.—January 8, 1867.

**2,547.**—C. L. TIFFANY, New York, N. Y.—*Ornament of American Jockey Club*.—January 8, 1867.

**2,548.**—HENRY H. HAYDEN, New York, N. Y., assignor to HOLMES, BOOTH & HAYDEN, Waterbury, Conn.—*Handle of a Fork or Spoon*.—January 15, 1867.

**2,549.**—HENRY D. MUSSLEMAN, Lancaster, Pa.—*Bottom of a Frying Pan*.—January 15, 1867.

**2,550.**—JOSEPH NAYLOR, Newark, N. J.—*Copying Press*.—January 15, 1867; antedated December 18, 1866.

**2,551.**—LE ROY S. WHITE, Waterbury, Conn.—*Handle of a Fork or Spoon*.—January 15, 1867.

**2,552.**—MARTIN H. CRANE, Cincinnati, Ohio, assignor to CRANE, BREED & Co., same place.—*Burial Case*.—January 15, 1867.

**2,553.**—RUSSELL FRISBIE, Cromwell, Conn., assignor to J. and E. STEVENS & Co., same place.—*Match Safe*.—January 15, 1867.

**2,554.**—SAMUEL KELLETT, San Francisco, Cal.—*Molding*.—January 15, 1867.

**2,555.**—W. S. MINGIS, New York, N. Y.—*Round Comb*.—January 15, 1867.

**2,556, 2,557.**—CALVIN W. SHERWOOD, Chicago, Ill.—*Standard for School Furniture*, (two patents.)—January 15, 1867.—January 15, 1867.

**2,558.**—SAMUEL W. VALENTINE, Bristol, Conn.—*Scissors*.—January 15, 1867.

**2,559.**—WILLIAM WEBSTER, Rochester, N. Y.—*Flower Garden*.—January 15, 1867.

**2,560.**—SAMUEL W. GIBBS, Albany, N. Y.—*Coal Shovel*.—January 22, 1867.

**2,561.**—AUGUST HEIDELBERGER, New York, N. Y.—*Trade Mark*.—January 22, 1867.

**2,562, 2,563.**—NICHOLAS MÜLLER, New York, N. Y.—*Clock Case*, (two patents.)—January 22, 1867.

**2,564 to 2,565.**—HORACE C. WILCOX, West Meriden, Conn., assignor to THE MERIDEN BRITANNIA COMPANY, same place.—*Caster Frame*.—January 22, 1867.

**2,566.**—THOMAS BOUDREN, Jersey City, N. J., assignor to himself and A. P. DE VOURSNEY, New York, N. Y.—*Coach Lamp*.—February 5, 1867.

**2,567.**—ARTHUR W. COX, Malden, Mass.—*Knife-edged Fork*.—February 5, 1867.

**2,568.**—N. FAIRBROTHER and G. S. FALES, Pawtucket, R. I.—*Trade Mark*.—February 5, 1867.

**2,569.**—GEORGE H. LINCOLN, Providence, R. I., assignor to THE LINCOLN MANUFACTURING COMPANY, same place.—*Trade Mark*.—February 5, 1867.

**2,570.**—J. F. MARKLAND, Newark, N. J.—*Buckle*.—February 5, 1867.

**2,571.**—CHRISTIAN W. QUANZ, New York, N. Y.—*Confectioners' Cornucopia*.—February 5, 1867.

**2,572.**—MARY A. LAWRENCE, New York, N. Y.—*Ornament for Hat and Dress*.—February 12, 1867.

**2,573.**—LOUIS SAARBACH, Philadelphia, Pa.—*Tobacco Pipe*.—February 12, 1867.

**2,574.**—GARRETTSON SMITH and HENRY BROWN, Philadelphia, Pa., assignors to LEIBRANDT & McDOWELL, same place.—*Cooks' Stove*.—February 12, 1867.

**2,575.**—HUGH CHRISTIE, Morrisania, N. Y., assignor to EDWARD C. SAMPSON, New York, N. Y.—*Floor Oil-cloth*.—February 12, 1867.

**2,576.**—JOHN H. CROWELL, Providence, R. I.—*Edge of Books*.—February 12, 1867.

**2,577 to 2,578.**—JULIUS HERRIET, New York, N. Y., assignor to DAVID WOLFE BRUCE, same place.—*Printers' Type*, (two patents.)—February 12, 1867.

**2,579 to 2,581.**—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON, New York, N. Y.—*Floor Oil-cloth*, (three patents.)—February 12, 1867.

**2,582.**—ANTHONY SHAFER and ALEXANDER BARCKLEY, Philadelphia, Pa.—*Coffee Strainer*.—February 12, 1867.



**2,583.**—JOHN H. CUMMINGS, Boston, Mass.—*Monogram*.—February 19, 1867.

**2,584.**—WALKER B. BARTRAM, Danbury, Conn.—*Frame of a Sewing Machine*.—February 19, 1867.

**2,585, 2,586.**—C. L. NEIBERG, New Haven, Conn., assignor to SARGENT & Co., same place.—*Coffin Handle, (four patents.)*—February 19, 1867.

**2,587.**—GARRETTSON SMITH and HENRY BROWN, Philadelphia, Pa., assignors to BUCKWALTER & Co., same place.—*Plate of a Cooks' Stove*.—February 26, 1867.

**2,588.**—JOHN H. BELLAMY, Charlestown, Mass., assignor to DAVID A. TITCOMB, same place.—*Picture Frame*.—February 26, 1867.

**2,589.**—D. S. COLBY and R. SCORER, Troy, N. Y., assignors to COX, CHURCH & Co., same place.—*Plate of a Cooks' Stove*.—February 26, 1867.

**2,590 to 2,593.**—ELEMIR J. NEY, Lowell, Mass., assignor to the LOWELL MANUFACTURING COMPANY, same place.—*Carpet Pattern, (four patents.)*—February 26, 1867.

**2,594.**—SAMUEL R. WILMOT, Bridgeport, Conn.—*Oil Can*.—February 26, 1867.

**2,595.**—JOHN S. ARMSTRONG, Prairie du Chien, Wis.—*Military Monument*.—March 12, 1867.

**2,596.**—G. A. ENO, Philadelphia, Pa.—*Spoon Handle*.—March 19, 1867.

**2,597.**—JOHN L. HADDEN, Philadelphia, Pa.—*Water Cooler*.—March 19, 1867.

**2,598.**—GEORGE JONES, Saugerties, N. Y.—*Coffee and Teapot Top*.—March 19, 1867.

**2,599.**—HENRY J. ROGERS, Baltimore, Md.—*Set of Signal Flags*.—March 19, 1867.

**2,600.**—IMLAY B. VIETS, New Britain, Conn.—*Axe Handle*.—March 19, 1867.

**2,601.**—ANDREW DUNWORTH and WILFRED DUNWORTH, Dobb's Ferry, N. Y.—*Pitcher*.—March 19, 1867.

**2,602 to 2,605.**—CHARLES ZEUNER, Cincinnati, Ohio, assignor to CRANE, BREED & Co., same place.—*Burial Case, (four patents.)*—March 19, 1867.

**2,606.**—C. HARRIS and P. W. ZOINER, Cincinnati, Ohio.—*Parlor Stove*.—March 26, 1867.

**2,607.**—ANDREW LITTLE, New York, N. Y.—*Printers' Type*.—March 26, 1867.

**2,608.**—HENRY BERGER, New York, N. Y.—*Center Piece*.—April 2, 1867.

**2,609.**—GEORGE BUNTIN, East Boston, Mass.—*End Frame of a Car Seat*.—April 2, 1867.

**2,610.**—HORACE HARRIS, Newark, N. J.—*Inkstand*.—April 2, 1867.

**2,611.**—J. MARTINO, J. BEESLEY, and J. CURRIE, Philadelphia, Pa., assignors to SMITH, WELLS & Co., same place.—*Cook Stove*.—April 9, 1867.

**2,612.**—J. R. ROSE and E. L. CALELY, Philadelphia, Pa., assignors to COX, WHITEMAN & COX, same place.—*Plate of a Cook Stove*.—April 9, 1867; antedated March 12, 1867.

**2,613.**—CHARLES GAUTIER, Washington, D. C.—*Bottle*.—April 9, 1867.

**2,614.**—FREDERICK BECKER, Baltimore, Md.—*Cigar Box*.—April 16, 1867.

**2,615.**—WILLIAM M. SMITH, West Meriden, Conn.—*Casket Handle*.—April 16, 1867.

**2,616, 2,617.**—ALEXANDER BECK, Philadelphia, Pa.—*Carpet Pattern, (two patents.)*—April 16, 1867.

**2,618.**—DAVID BRUCE, Newton, N. Y.—*Printers' Type*.—April 16, 1867.

**2,619, 2,620.**—J. L. MOTT, Mott Haven, N. Y.—*Washstand, (two patents.)*—April 16, 1867.

**2,621.**—JACOB S. SIMMERMAN, Millville, N. J.—*Stove Handle*.—April 16, 1867.

**2,622.**—P. W. VAIL, Newark, N. J.—*Hat*.—April 16, 1867.

**2,623.**—CHARLES WILHELM and JOSEPH NEUMANN, Philadelphia, Pa.—*Shade for a Ceiling Light*.—April 16, 1867.

**2,624.**—CHARLES WILHELM and JOSEPH NEUMANN, Philadelphia, Pa.—*Lantern Reflector*.—April 16, 1867.

**2,625.**—CHARLES J. WOOLSON, Cleveland, Ohio.—*Stove Door*.—April 16, 1867.

**2,626.**—A. C. FELTON, Boston, Mass.—*Clock Case*.—April 23, 1867.

**2,627.**—LOUIS L. ARNOLD, New York, N. Y.—*Trade Mark*.—April 23, 1867.

**2,628.**—ELI W. BAILEY, Philadelphia, Pa.—*Trade Mark*.—April 23, 1867.

**2,629.**—JOHN M. BATCHELDER, Cambridge, Mass.—*Trade Mark*.—April 23, 1867.

**2,630.**—JAMES P. BAXTER, Portland, Me.—*Trade Mark*.—April 23, 1867.

**2,631.**—CHARLES J. HAUCK, Brooklyn, N. Y.—*Tobacco Box*.—April 23, 1867.

**2,632.**—GEORGE LOVEJOY, Deposit, N. Y.—*Fence Panel*.—April 23, 1867.

**2,633, 2,634.**—ROBERT HASKIN, Brooklyn, N. Y., assignor to EDWARD C. SAMPSON, New York, N. Y.—*Floor Oilcloth or Carpet Pattern, (two patents.)*—April 30, 1867; antedated April 6, 1867.

**2,635 to 2,640.**—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON, New York, N. Y.—*Floor Oilcloth or Carpet Pattern, (six patents.)*—April 30, 1867; antedated April 3, 1867.

**2,641.**—EGBERT W. SPERRY, Wolcottville, Conn.—*Knife or Fork Handle, &c.*—April 30, 1867.

**2,642, 2,643.**—EGBERT W. SPERRY, Wolcottville, Conn.—*Knife, Fork, or Spoon Handle, (two patents.)*—April 30, 1867.

**2,644.**—THOMAS H. DORIAN, Washington, D. C.—*Statuette*.—May 7, 1867.

**2,645.**—MARTIN V. B. FERRIS, South Norwalk, Conn., assignor to himself and CHARLES E. FERRIS, Attica, N. Y.—*Trade Mark*.—May 7, 1867.

**2,646.**—PHILO B. GILBERT, New York, N. Y.—*Spoon, Knife, or Fork Handle*.—May 7, 1867.

**2,647 to 2,649.**—C. L. NEIBERG, New Haven, Conn., assignor to SARGENT & Co., same place.—*Coffin Handle, (three patents.)*—May 7, 1867.

**2,650.**—LEWIS RATHBONE, Albany, N. Y.—*Wood Stove*.—May 7, 1867.

**2,651.**—LEWIS RATHBONE, Albany, N. Y.—*Coal Stove*.—May 7, 1867.

**2,652.**—SAMUEL A. WHITNEY, Glasboro', N. J.—*Bottle*.—May 14, 1867.



**2,653.**—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON, New York, N. Y.—*Floor Oilcloth or Carpet Pattern.*—May 14, 1867; antedated April 11, 1867.

**2,654.**—HORACE C. WILCOX, West Meriden, Conn.—*Spoon or Fork Handle.*—May 14, 1867.

**2,655.**—JOHN ABENDROTH, New York, N. Y.—*Cook Stove.*—May 21, 1867.

**2,656.**—MARCUS DE VOURSNEY, Newark, N. J.—*Carriage Lamp.*—May 21, 1867.

**2,657.**—ADOLPH H. RAU, Philadelphia, Pa.—*Shaft Frame.*—May 21, 1867.

**2,658.**—HENRY M. RITTER, Cincinnati, Ohio., assignor to M. GREENWOOD & Co., same place.—*Piano Stool.*—May 21, 1867.

**2,659.**—ROBERT B. PARKINSON, Philadelphia, Pa.—*Bottle and Cap.*—May 28, 1867.

**2,660.**—FRANKLIN SHAW, Braintree, Mass.—*Heel Plate for Boots, &c.*—May 28, 1867.

**2,661.**—HENRY BERGER, New York, N. Y.—*Center Piece.*—June 4, 1867.

**2,662.**—A. E. CHAMBERLAIN and JOHN B. CROWLEY, Cincinnati, Ohio, assignors to CHAMBERLAIN & Co., same place.—*Cook Stove.*—June 4, 1867.

**2,663.**—GILES F. FILLEY, St. Louis, Mo.—*Trade Mark.*—June 4, 1867.

**2,664.**—ALONZO HEBBARD, New York, N. Y.—*Spoon or Fork Handle.*—June 4, 1867.

**2,665.**—CHARLES KIRCHHOFF, Newark, N. J.—*Pending Wheel.*—June 4, 1867.

**2,666, 2,667.**—SAMUEL MCCARTNEY, St. Louis, Mo.—*Trade Mark, (two patents.)*—June 4, 1867.

**2,668, 2,669.**—BERNARD SMITH, Cincinnati, Ohio, assignor to AMERICAN BURIAL CASE COMPANY, same place.—*Burial Case.*—June 4, 1867.

**2,670.**—HENRY TETLOW, Philadelphia, Pa.—*Trade Mark.*—June 4, 1867.

**2,671.**—FRANCIS J. CLAMER, Philadelphia, Pa.—*Napkin Ring.*—June 11, 1867.

**2,672.**—BENAIHA FITTS, Newark, N. J., assignor to GOULD MACHINE COMPANY, same place.—*Steam Fire Engine.*—June 11, 1867.

**2,673.**—ISAAC A. SHEPPARD, Philadelphia, Pa.—*Plate of a Stove.*—June 11, 1867.

**2,674.**—GEORGE P. DARROW, Cincinnati, Ohio, assignor to JAMES L. HAVEN & Co., same place.—*Plow Clevis.*—June 18, 1867.

**2,675.**—A. C. FELTON, Boston, Mass.—*Clock Case.*—June 18, 1867.

**2,676.**—ANTHONY ISKE, Lancaster, Pa.—*Combined Hammer, Tack Drawer, Wrench, &c.*—June 18, 1867.

**2,677.**—DAYTON MORGAN, Chillicothe, Ohio.—*Soldiers' Monument.*—June 18, 1867.

**2,678.**—W. W. REYNOLDS, Brandon, Vt., assignor to THE HOWE SCALE COMPANY.—*Post Office Balance.*—June 18, 1867.

**2,679.**—W. W. REYNOLDS, Brandon, Vt., assignor to THE HOWE SCALE COMPANY.—*Counter Scale.*—June 18, 1867.

**2,680.**—SAMUEL SAILOR, Philadelphia, Pa., assignor to FRANCIS BUCKWALTER & Co., Roger's Ford, Pa.—*Cook's Stove.*—June 18, 1867; antedated June 4, 1867.

**2,681.**—GEORGE JONES, Saugerties, N. Y.—*Tea or Coffee Pot.*—June 18, 1867.

**2,682, 2,683.**—D. S. COLBY and R. SCORER, Troy, N. Y.—*Plate of a Stove, (two patents.)*—June 25, 1867.

**2,684.**—SAMUEL W. FRANCIS, Newport, R. I.—*Visiting Card.*—June 25, 1867.

**2,685.**—B. J. HARRISON and J. CONDIE, New York, N. Y.—*Folding Chair.*—June 25, 1867.

**2,686.**—DAVID HATHAWAY, Troy, N. Y., assignor to FULLER, WARREN & Co., same place.—*Plate of a Stove.*—June 25, 1867.

**2,687.**—JOHN MARTINO, JACOB BEESLEY, and JOHN CURRIE, Philadelphia, Pa., assignors to MARSHBANK & MARTIN, Lancaster, Pa.—*Cook's Stove.*—June 25, 1867.

**2,688.**—ELISHA MORGAN, Springfield, Mass.—*Envelope.*—June 25, 1867.

**2,689.**—G. SMITH and H. BROWN, Philadelphia, Pa., assignors to ABBOTT & NOBLE, same place.—*Plate of a Stove.*—June 25, 1867; antedated May 28, 1867.

**2,690.**—F. BLECKLE, Philadelphia, Pa.—*Knitted Fabric.*—July 2, 1867.

**2,691.**—STEPHAN HASENBÜHLER, Philadelphia, Pa., assignor to H. A. OESTERLE & Co., same place.—*Blind Binding.*—July 2, 1867.

**2,692.**—JAMES PATERSON, Elizabeth, N. J., assignor to EDWARD HARVEY, Brooklyn, N. Y.—*Floor Oil Cloth Pattern.*—July 2, 1867.

**2,693.**—D. F. RANDALL, Chicopee, Mass.—*Metallic Band for Railroad Car Seats, &c.*—July 2, 1867.

**2,694 to 2,696.**—G. W. BALL, Cincinnati, Ohio.—*Cook's Stove, (three patents.)*—July 9, 1867.

**2,697.**—ISAAC COOK, St. Louis, Mo.—*Trade Mark.*—July 9, 1867.

**2,698.**—E. S. EARLEY, Philadelphia, Pa.—*Burial Case or Coffin.*—July 9, 1867.

**2,699.**—C. GAUTIER, Washington, D. C.—*Label for Bottles.*—July 9, 1867.

**2,700.**—LUTHER W. HARWOOD, Troy, N. Y., assignor to FULLER, WARREN & Co., same place.—*Stove Plate.*—July 9, 1867.

**2,701, 2,702.**—E. M. MIX, Westfield, N. Y.—*Rim Lock, (two patents.)*—July 9, 1867.

**2,703.**—OWEN REDMOND, Rochester, N. Y.—*Back Piece of a Stave Machine.*—July 9, 1867.

**2,704.**—JOHN ROGERS, New York, N. Y.—*Group of Statuary.*—July 9, 1867.

**2,705.**—JOHN T. WEBSTER, New York, N. Y., assignor to DEBORAH, ALBERT E., and NATHANIEL B. POWERS, Lansingburgh, N. Y.—*Floor Oil Cloth.*—July 16, 1867.

**2,706.**—JAMES C. MERRITT, New York, N. Y., assignor to himself and OSCAR J. MERRITT, same place.—*Eyelet.*—July 16, 1867.

**2,707.**—JAMES S. WATERS, St. Louis, Mo., assignor to THE ST. LOUIS LEAD AND OIL COMPANY, same place.—*Trade Mark.*—July 16, 1867.

**2,708.**—JARVIS R. WOOD, Fitchburg, Mass.—*Button-hole for Cuffs, &c.*—July 16, 1867.

**2,709.**—RUSSEL FRISBIE, Cromwell, Conn., assignor to J. and E. STEVENS & Co., same place.—*Mirror Frame.*—July 23, 1867.



- 2,710.**—WILLIAM J. HOWARD, Petersburg, Ky.—*Caster Covering*.—July 23, 1867.
- 2,711.**—WILLIAM L. MCDOWELL, Philadelphia, Pa.—*Plate of a Stove*.—July 23, 1867.
- 2,712.**—CHARLES PRATT, New York, N. Y.—*Oil Can*.—July 23, 1867.
- 2,713.**—HENRY HOFFMAN, Jenner's Cross Roads, Pa.—*Coffin*.—July 30, 1867.
- 2,714.**—WILLIAM CAVEN, Cincinnati, Ohio, assignor to REDWAY and BURTON, same place.—*Canon Stove*.—August 6, 1867.
- 2,715.**—JOHN FAHNESTOCK, New York, N. Y., assignor to JAMES BUCHAN & Co., same place.—*Label*.—August 6, 1867.
- 2,716.**—WILLIAM L. MCDOWELL, Philadelphia, Pa.—*Stove Top*.—August 6, 1867.
- 2,717.**—J. S. MCKAYE and H. E. MCKAY, New York, N. Y.—*Statuette*.—August 6, 1867.
- 2,718.**—A. J. REDWAY, Cincinnati, Ohio, assignor to REDWAY and BURTON, same place.—*Charcoal Stove*.—August 6, 1867.
- 2,719.**—SIMON SCHEUER and ISAAC SCHEUER, New York, N. Y.—*Pocket-book*.—August 6, 1867.
- 2,720.**—JOSEPH SEYMOUR, Syracuse, N. Y.—*Fork or Spoon Handle*.—August 6, 1867.
- 2,721.**—STEPHEN D. ARNOLD, New Britain, Conn., assignor to P. and F. CORBIN, Joint Stock Corporation.—*Casket Handle*.—August 6, 1867.
- 2,722.**—C. O. BENTON, Cleveland, Ohio.—*Trade Mark*.—August 6, 1867.
- 2,723.**—D. S. COLBY and ROBERT SCORER, Troy, N. Y.—*Plate of a Parlor Stove*.—August 6, 1867.
- 2,724.**—CHARLES COOTS, Rochester, N. Y.—*Post and Fence*.—August 6, 1867.
- 2,725.**—JAMES B. CRUMP, Portland, Me.—*Trade Mark*.—August 6, 1867.
- 2,726.**—EDWARD DITHRIDGE, Pittsburg, Pa.—*Lamp Chimney*.—August 6, 1867.
- 2,727.**—EDWARD DITHRIDGE, Pittsburg, Pa.—*Reflector*.—August 6, 1867.
- 2,728.**—JOHN DUNDAS, New York, N. Y.—*Ornamental Star*.—August 6, 1867.
- 2,729.**—JOHN MARTINO, JACOB BEESLEY, and JOHN CURRIE, Philadelphia, Pa., assignors to C. W. BLANDY & BROTHER, Newark, Del.—*Cook's Stove*.—August 6, 1867; antedated July 16, 1867.
- 2,730.**—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON.—*Floor Oil Cloth or Carpet Pattern*.—August 6, 1867.
- 2,731.**—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON.—*Floor Oil Cloth or Carpet Pattern*.—August 6, 1867.
- 2,732.**—CLEMENT OLHABER, Cincinnati, Ohio, and NICHOLAS S. VEDDER, Troy, N. Y., assignors to WOODROW, MEARS & Co., Cincinnati, Ohio.—*Cook's Stove*.—August 6, 1867.
- 2,733.**—WILLIAM S. ROCKWELL, Savannah, Ga.—*Pillar*.—August 6, 1867.
- 2,734, 2,735.**—NICHOLAS S. VEDDER, Troy, N. Y.—*Plate of a Stove, (two patents)*.—August 6, 1867.
- 2,736.**—NICHOLAS S. VEDDER, Troy, N. Y.—*Plate and Door of a Stove*.—August 6, 1867.
- 2,737.**—NICHOLAS S. VEDDER, Troy, N. Y.—*Plate of a Stove*.—August 6, 1867.
- 2,738 to 2,740.**—NICHOLAS S. VEDDER, Troy, N. Y.—*Door of a Stove, (three patents)*.—August 6, 1867.
- 2,741.**—DENNIS C. WHITEX, West Meriden, Conn., assignor to MERIDEN BRITANNIA COMPANY.—*Handle of a Fork or Spoon*.—August 6, 1867.
- 2,742.**—ANDREW F. ATKINS, Bristol, Conn.—*Clock Case*.—August 13, 1867.
- 2,743.**—JOSEPH L. RATES, Boston, Mass.—*Trade Mark*.—August 13, 1867.
- 2,744, 2,745.**—JOHN L. BENNYCKER, St. Louis, Mo.—*Trade Mark, (two patents)*.—August 13, 1867.
- 2,746.**—DAVID HATHAWAY, Troy, N. Y., assignor to FULLER, WARREN & Co., same place.—*Store Plate*.—August 13, 1867.
- 2,747.**—JAMES I. HAYEN, Cincinnati, Ohio.—*Blacksmiths' Drill*.—August 13, 1867.
- 2,748.**—J. S. MCKAYE and H. E. MCKAY, New York, N. Y.—*Statuette*.—August 13, 1867.
- 2,749.**—SAMUEL SAHON, Philadelphia, Pa., assignor to MARCH, SISTER & Co., Limerick Station, Pa.—*Store Door*.—August 13, 1867.
- 2,750.**—GEORGE F. STICKER, Providence, R. I.—*Garden Urn*.—August 13, 1867.
- 2,751.**—GEORGE BARTT, North Easton, Mass.—*Trade Mark*.—August 20, 1867.
- 2,752.**—DAVID HATHAWAY, Troy, N. Y., assignor to FULLER, WARREN & Co., same place.—*Plate of a Stove*.—August 20, 1867.
- 2,753.**—B. P. HOLMES, Philadelphia, Pa.—*Ink Bottle*.—August 20, 1867.
- 2,754 to 2,765.**—E. J. NEY, Lowell, Mass., assignor to LOWELL MANUFACTURING COMPANY, same place.—*Carpet Pattern, (twelve patents)*.—August 20, 1867.
- 2,766.**—A. H. SMITH, WM. W. CLARK, and GEO. F. STARBUCK, New York, N. Y.—*Horse Brush*.—August 20, 1867.
- 2,767.**—SAMUEL W. VALENTINE, Bristol, Conn.—*Paper Bag*.—August 20, 1867.
- 2,768.**—CHARLES N. MARCHANT, Delaware City, Del., assignor to HIGGINS, MARCHANT & Co., Philadelphia, Pa.—*Spoon*.—August 27, 1867.
- 2,769.**—J. S. MCKAYE and H. E. MCKAY, New York, N. Y.—*Statuette*.—August 27, 1867.
- 2,770.**—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON, New York, N. Y.—*Carpet or Oil Cloth Pattern*.—August 27, 1867.
- 2,771.**—H. J. MONSON and JOHN T. MONSON, Louisville, Ky.—*Trade Mark*.—August 27, 1867.
- 2,772.**—JOHN POLHAMUS, New York, N. Y.—*Fork or Spoon Handle*.—August 27, 1867.
- 2,773.**—W. E. SMITH, Hartleton, Pa.—*Fence*.—August 27, 1867.
- 2,774.**—WILLIAM JOCK, St. Louis, Mo.—*Trade Mark*.—August 27, 1867.
- 2,775.**—PETER REHA, St. Louis, Mo.—*Trade Mark*.—September 10, 1867.
- 2,776.**—JOHN H. BULLAMY, Charlestown, Mass.—*Clock Case*.—September 10, 1867.



2,777, 2,778.—JOHN H. BELLAMY, Charlestown, Mass., assignor to himself and D. A. TITCOMB, same place.—*Clock Case*, (two patents.)—September 10, 1867.

2,779.—JAMES BINGHAM, Jr., Philadelphia, Pa.—*Spoon Handle*.—September 10, 1867.

2,780.—ALONZO HEBBARD, New York, N. Y., assignor to EDWARD CORNING and J. W. DOMINICK, same place.—*Spoon Handle*.—September 10, 1867.

2,781.—JASPER VAN WORMER and MICHAEL MCGARVEY, Albany, N. Y.—*Parlor Stove*.—September 10, 1867.

2,782.—JOHN S. HARRISON, Canton, Ohio.—*Soldier's Memorial*.—September 24, 1867.

2,783.—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON, New York, N. Y.—*Carpet Pattern*.—September 24, 1867.

2,784.—FRANCIS WHITTAKER, St. Louis, Mo.—*Trade Mark*.—September 24, 1867.

2,785.—ROBERT HASKIN, Brooklyn, N. Y.—*Carpet Pattern*.—September 24, 1867.

2,786.—J. G. MACKINTOSH, New York, N. Y.—*Trade Mark*.—September 24, 1867.

2,787 to 2,789.—CHARLES T. MEYER, Bergen, N. J., assignor to EDWARD C. SAMPSON, New York, N. Y.—*Carpet Pattern*, (three patents.)—September 24, 1867.

2,790.—ISAAC A. SHEPPARD, Philadelphia, Pa.—*Store Plate*.—September 24, 1867.

2,791.—RICHARD SMITH, Philadelphia, Pa., assignor to MACKELLAR SMITH & JORDAN.—*Printing Type*.—September 24, 1867.

2,792.—THOMAS BAKEWELL, Pittsburg, Pa.—*Trade Mark*.—October 1, 1867.

2,793.—HAMMETT BILLINGS, Boston, Mass.—*Shuttle*.—October 1, 1867.

2,794.—LUTHER BOARDMAN and NORMAN S. BOARDMAN, East Haddam, Conn.—*Spoon Handle*.—October 1, 1867.

2,795.—ALFRED GERARD, Somerset county, N. J.—*Watch Plate*.—October 1, 1867.

2,796.—S. W. GIBBS, Albany, N. Y.—*Range*.—October 1, 1867.

2,797.—STEWART GWYNN, New York, N. Y.—*Trade Mark*.—October 1, 1867.

2,798.—T. C. PAGE, Chicopee, Mass.—*Sewing Machine*.—October 1, 1867.

2,799.—WILLIAM B. WEEDEN, Providence, R. I.—*Woven Fabric*.—October 1, 1867.

2,800.—T. A. DORGAN, Baltimore, Md.—*Stove Door*.—October 15, 1867.

2,801.—A. E. POWERS, Lansingburgh, N. Y., assignor to himself, DEBORAH and NATHANIEL B. POWERS, same place.—*Floor Cloth Pattern*.—October 15, 1867.

2,802.—CHARLES J. SHEPARD, Brooklyn, N. Y.—*Plaster and Center Piece of Heaters, &c.*—October 15, 1867.

2,803.—JAMES SPEAR, Philadelphia, Pa.—*Stove*.—October 15, 1867.

2,804.—WILLIAM CAVEN and CHARLES STEMLER, Cincinnati, Ohio, assignors to REDWAY and BURTON, same place.—*Parlor Cook Stove*.—October 22, 1867.

2,805.—MICHAEL B. DYOTT, Philadelphia, Pa.—*Emblem*.—October 22, 1867.

2,806.—JOSEPH ROBLEY, Brooklyn, N. Y., assignor to WILLIAM M. BRASHER & CO., same place.—*Floor Oil-cloth Pattern*.—October 22, 1867.

2,807.—JOHN R. LOMAS, New Haven, Conn., assignor to B. SHONINGER MELODEON COMPANY, same place.—*Organ Case*.—October 22, 1867.

2,808.—FERDINAND MENSSING, New York, N. Y.—*Trade Mark*.—October 22, 1867.

2,809.—GARRETTSON SMITH and HENRY BROWN, Philadelphia, Pa.—*Cook's Stove*.—October 22, 1867.

2,810.—GARRETTSON SMITH and HENRY BROWN, Philadelphia, Pa., assignors to DAVID L. BARTLETT and H. W. ROBBINS, Baltimore, Md.—*Cook's Stove*.—October 22, 1867.

2,811.—A. D. THURBER, New York, N. Y.—*Label Border*.—October 22, 1867.

2,812.—GEORGE WILSON, Ware, Mass., assignor to OTIS COMPANY.—*Trade Mark*.—October 22, 1867.

2,813.—THOMAS JAMES and WILLIAM ARMSTRONG, Port Deposit, Md.—*Cook's Stove*.—October 22, 1867.

2,814.—JONATHAN G. EVANS, Albany, N. Y.—*Model of the Ancient City of Jerusalem*.—October 22, 1867.

2,815.—CHARLES GRIFFITH, New York, N. Y.—*Trade Mark*.—October 22, 1867.

2,816.—HENRY SCHLICHTER and HENRY A. ZUG, Philadelphia, Pa.—*Bottle*.—October 22, 1867.

2,817.—SAMUEL S. BENT, Port Chester, N. Y.—*Name Plate*.—October 29, 1867.

2,818.—BENJAMIN R. BACON, Philadelphia, Pa.—*Burial Casket*.—November 5, 1867.

2,819.—JOHN T. BAILEY, Philadelphia, Pa., assignor to himself and JAMES CASCADEN, same place.—*Trade Mark*.—November 5, 1867.

2,820.—CHRISTIAN BARRY, Philadelphia, Pa.—*Can*.—November 5, 1867.

2,821.—ELIZABETH HIMES, New Albany, Ind.—*Reflector*.—November 5, 1867.

2,822.—JOHN R. LOMAS, New Haven, Conn.—*Melodeon Case*.—November 5, 1867.

2,823.—EDWARD MARTIN, Burlington, Vt.—*Molding*.—November 5, 1867.

2,824.—WM. MASTERS, New York, N. Y.—*Smoking Pipe*.—November 5, 1867.

2,825.—H. SELLERS MCKEE, Pittsburg, Pa.—*Ornamenting Table Glassware*.—November 5, 1867.

2,826.—JAMES S. RAY, East Haddam, Conn.—*Coffin Handle*.—November 5, 1867.

2,827.—JAMES M. SCHOONMAKER, Pittsburg, Pa.—*Trade Mark*.—November 5, 1867.

2,828.—EDWARD SEALY, Newark, N. J.—*Band Slide*.—November 5, 1867.

2,829.—EDWARD SEALY, Newark, N. J.—*Pendant for Hat Bands*.—November 5, 1867.

2,830.—WISNER H. TOWNSEND, New York, N. Y.—*Oil Cloth*.—November 5, 1867.

2,831.—DAVID BRUCE, Brooklyn, N. Y., assignor to DAVID WOLFE BRUCE, New York, N. Y.—*Printers' Type*.—November 19, 1867.



**2,832.**—JULIUS HERRIET, New York, N. Y., assignor to DAVID WOLFE BRUCE, same place.—*Printers' Type.*—November 19, 1867.

**2,833.**—E. C. RUTHVEN, Philadelphia, Pa.—*Ornamental Type.*—November 19, 1867.

**2,834.**—JOSEPH SCHOLFIELD, Constantine, Mich.—*Trade Mark.*—November 19, 1867.

**2,835.**—R. M. SELDIS, New York, N. Y.—*Satchel.*—November 19, 1867.

**2,836.**—W. G. WILSON, Cleveland, Ohio.—*Sewing Machine.*—November 19, 1867.

**2,837.**—J. B. CROWLEY, Cincinnati, Ohio, assignor to CHAMBERLAIN & Co., same place.—*Cooks' Stove.*—November 26, 1867.

**2,838.**—JACOB ENTENEUER, Peoria, Ill.—*Door Knob.*—November 26, 1867.

**2,839.**—HENRY S. and ALFRED S. HUBBELL, Buffalo, N. Y.—*Stove Plate.*—November 26, 1867.

**2,840.**—S. B. ROWLEY, Philadelphia, Pa.—*Body of a Jar.*—November 26, 1867.

**2,841.**—R. M. SELDIS, New York, N. Y.—*Muff.*—November 26, 1867.

**2,842.**—D. O'SULLIVAN, Leicester, Mass.—*Trade Mark.*—November 26, 1867.

**2,843.**—H. P. TILDEN, Philadelphia, Pa.—*Skate Runner.*—November 26, 1867.

**2,844.**—C. HARRIS and PAUL W. ZOINER, Cincinnati, Ohio.—*Cook Stove.*—December 3, 1867.

**2,845.**—CHARLES WRIGHT KIRBY, New York, N. Y.—*Decorating Croquet Balls and Mallets.*—December 3, 1867.

**2,846.**—VIRGIL PRICE, New York, N. Y.—*Set of Masonic Badges.*—December 10, 1867.

**2,847.**—RUSSELL WHEELER, Utica, N. Y.—*Cook Stove.*—December 10, 1867.

**2,848.**—GEORGE BYRON KIRKHAM, New York, N. Y.—*Window Fastener.*—December 17, 1867.

**2,849.**—WILLIAM F. MOSELY, Brooklyn, N. Y.—*Paper Collar.*—December 17, 1867.

**2,850.**—JAMES PATERSON, Elizabeth City, N. J., assignor to W. W. GEARNS & Co., Newburg, N. Y.—*Oilcloth Pattern.*—December 17, 1867.

**2,851.**—ARAD BARROWS, Philadelphia, Pa.—*Sad-iron Handle.*—December 31, 1867.

**2,852.**—JOHN H. BROWN, Geneseo, N. Y.—*Molding for Picture Frames.*—December 31, 1867.

**2,853.**—CASPER FERSCH, New York, N. Y., assignor to HOFFMAN & FERSCH.—*Molding for Show Cases.*—December 31, 1867.

**2,854.**—JOHN GORHAM, Providence, R. I., assignor to GORHAM MANUFACTURING COMPANY.—*Trade Mark.*—December 31, 1867.

**2,855.**—JOHN MURPHY, New York, N. Y.—*Pistol Barrel.*—December 31, 1867.

**2,856.**—ARTHUR STAFFORD, Brooklyn, N. Y.—*Key Tag.*—December 31, 1867.

**2,857.**—AUGUST WILHELM, Philadelphia, Pa.—*Reflector.*—December 31, 1867.



# REISSUES.

**2,430.**—ALFRED MONNIER, Philadelphia, Pa.—*Purifying Metallic Oxides.*—Patented March 21, 1865; reissued January 1, 1867.

*Claim.*—The treatment of metallic oxides for their purification, substantially as herein set forth.

**2,431.**—HENRY PEMBERTON, Allegheny City, Pa.—*Refining Hydro-carbon Oils and Utilizing Waste Products therefrom.*—Patented August 2, 1859; reissued January 1, 1867.

*Claim.*—First, recovering the sulphuric acid contained in the residuum of the process of refining coal oil, petroleum and other hydro-carburets by exposing the residuum, which is a compound of acid and tarry matters, to the combined action of water and heat, whereby, under the influence of the high temperature, the attraction of the tarry matters for the acid is overcome by the superior affinity of the acid for the water, so that the acid separates itself from the tarry matter and dissolves in the water, from which it may be obtained in a concentrated state and purified by various means, substantially as hereinbefore described.

Second, purifying the dilute sulphuric acid recovered from the residuum which results from the refining of coal oils, petroleum, and other hydro-carburets, by repeated processes of concentration and dilution with water, whereby the coloring matter is separated, and may be removed, substantially as hereinbefore described.

Third, the use of the sulphuric acid recovered from the residuum resulting from the refining of coal oil, petroleum, and other hydro-carburets, for the decomposition of salt, in the production of sulphate of soda, as a step in the manufacture of soda ash.

**2,432.**—EDWARD Y. ROBBINS, Cincinnati, Ohio, assignee by mesne assignments of himself.—*Drying Apparatus.*—Patented July 19, 1864; reissued January 1, 1867.

*Claim.*—First, so arranging the drying chamber and drum or flue B, and the furnace or stove for heating the wash water, that the drying chamber shall be heated by the surplus heat passing from the furnace or stove through a drum or flue B placed in the drying chamber, substantially as set forth.

Second, the application of a condenser to a drying chamber as above described, or any equivalent arrangement for producing the same effect, substantially in the same manner.

Third, the netting when placed over the drum or flue to catch the clothes in case of falling, and thus prevent their being burned, the same being arranged substantially as set forth.

**2,433.**—P. JEWELL & SONS, Hartford, Conn., assignees of HENRY UNDERWOOD, New York, N. Y.—*Lap Joint.*—Patented February 9, 1858; reissued January 1, 1867.

*Claim.*—The union of the plates or straps *b* with the rivets *a a'*, which pass through the outer and inner ends A B of the belt, substantially as and for the purposes described.

**2,434.**—WILLIAM E. WARD, Port Chester, N. Y.—*Machine for Making Nuts.*—Patented October 7, 1856; reissued January 1, 1867.

*Claim.*—As a new invention the two punches arranged side by side, and operated substantially as described for punching the central hole, cutting off the blanks from the bar and discharging the same, substantially as described, in combination with the two holes or two dies, so that a hole is punched in the bar for another nut during the continued motion of the punch to discharge the nut which was cut off during the previous part of the same motion.

Also, in combination with the punching and cutting mechanism either without or with the mandrel,

or its equivalent, for entering the central hole of the nut blank, the employment of the spring jaws, or the equivalents thereof for transferring the nut blank from the die to the mandrel and there holding it until the mandrel enters the hole, substantially as described.

Also, the mandrel for holding the nut blank in combination with the swaging surfaces by which the faces of the nut are formed, substantially as described.

Also, in combination with the mandrel for holding the nut blank substantially as described, the hammers for hammering or swaging the edges of the nut, substantially as described.

Also, the combination of the swaging surfaces for forming the faces of the nut with the hammers for forging the edges of the nut, substantially as specified and for the purpose set forth.

**2,435.**—WILLIAM A. BARLOW, Elkhorn, Wis.—*Heating Stove.*—Patented June 3, 1862; reissued January 1, 1867.

*Claim.*—The base A composed of top and bottom plates only, so formed and united as to inclose a hollow or space under the whole body of the stove, and occupied throughout by the products of combustion in passing from the descending to the ascending flue or flues, substantially as and for the purposes herein specified.

Also, the combination and arrangement of the projecting base A, composed of top and bottom plates inclosing a space, the projecting top C, similarly composed of top and bottom plates, and the pipes or flues E E and F outside of and distinct from the body of the stove, substantially as and for the purposes herein set forth.

Also, in combination with the above the dividing plates *a a*, substantially as and for the purposes herein described.

**2,436.**—WILLIAM A. BARLOW, Elkhorn, Wis.—*Heating Stove.*—Patented June 3, 1862; reissued January 1, 1867.

*Claim.*—A heating stove having a double projecting top and an opening therein of the full or nearly full size of the interior of the stove body, and closed by a removable cover, substantially as and for the purposes herein specified.

In combination therewith a top C made of top and bottom plates with a heat circulating space between them, and projecting beyond the body of the stove sufficiently to admit flues or pipes extending from the top to the base of the stove, outside of the stove body, substantially as and for the purpose herein set forth.

**2,437.**—JOHN SCHAFER, St. Louis, Mo.—*Capstan for Steamboats.*—Patented October 21, 1856; reissued August 25, 1857, and again reissued January 1, 1867.

*Claim.*—The arrangement of the capstan barrel A with the wheels *e f*, 6, 5, 4, 3, 2, and 1, provided with suitable shafting, when said wheels and shafting are used for connecting and rotating a capstan barrel by an auxiliary engine, said capstan and auxiliary engine being placed forward of the steam boilers on the bow of the boat, substantially as herein described and for the purpose set forth.

**2,438.**—C. AULTMAN, Canton, Ohio, assignee by mesne assignments of S. A. LINDSAY.—*Harvester Rake.*—Patented December 11, 1860; reissued January 1, 1867.

*Claim.*—First, a support for the revolving rake and reel shaft attached to and moving with the platform of a hinged bar machine.

Second, a support for the revolving rake and reel shaft attached to and moving with the hinged platform, in combination with a hinged platform suspended to the main frame.



Third, a support for the revolving rake and reel shaft attached to and moving with the hinged platform, in combination with the universal joint for drawing said shaft, and conforming the rake and reel to the movement of the platform.

Fourth, an automatic revolving rake with a universal joint for driving it.

Fifth, the combination of a revolving rake and reel, a hinged platform, and a jointed tumbling driving shaft.

Sixth, a support for the revolving rake and reel shaft attached to and moving with the hinged platform, in combination with a driving mechanism which adapts itself to the rising and falling of the platform in passing over uneven ground.

Seventh, the combination of a revolving rake and reel with a mechanism for adjusting the rake and reel together, with the cutting apparatus and platform so arranged that the driver can operate it without stopping the machine.

Eighth, the combination of a floating finger-beam machine, a revolving rake and reel, so arranged that the rake and platform shall rise and fall together while reaping, and that the rake and platform may be readily removed for converting it into a mower.

Ninth, the combination of a hinged platform and a continuously-revolving rake-shaft support located on said platform between the center of the draft frame and the outer divider.

Tenth, a standard or support, which sustains the sweep rake above the draft frame or driving wheels thereof, said standard or support being mounted on the hinged platform.

Eleventh, in a harvesting machine, which has its cutting apparatus hinged or jointed to the main frame in such manner as allows it to conform at both ends to the undulations of the ground and has a rake support mounted on said jointed platform, so constructing and arranging the several parts that the support of the rake can occupy a position outside of the inner drive wheel, or a position which is between the point of suspension of the platform and the outer divider, and so that said platform can also be hung or suspended below the draft frame.

Twelfth, an inclined rake shaft, a platform and spring, so arranged that the rake head shall be elevated sufficiently to pass above the main frame by the mere inclination of the axle, and shall be guided in passing across the platform by the sliding of the rake teeth on the platform, thereby dispensing with the use of a cam for elevating or guiding the rake.

Thirteenth, a continuously-revolving rake, in combination with a shaft inclined toward the platform for forcing the rake down to the platform and then elevating it up and out of the way of the wheels and main frame in its revolution.

**2,439.**—C. AULTMAN, Canton, Ohio, assignee by mesne assignments of S. A. LINDSAY.—*Harvester*.—Patented August 2, 1859; reissued January 1, 1867.

*Claim.*—First, an automatic rake, delivering the grain in the arc of a circle, in combination with a hinged platform.

Second, the combination of a revolving rake and reel and a hinged platform.

Third, the combination of a revolving rake and reel with a hinged platform suspended from the main frame.

Fourth, in a harvester, having a revolving rake and reel, suspending the hinged platform to the main frame at one or more points between the driving wheels.

Fifth, the combination of a revolving rake and reel with a hinged cutting apparatus, in such a manner that the said cutting apparatus can be raised and lowered without changing the relative position of the rake and reel to the platform.

Sixth, the employment of radial reel and rake arms attached to the central head or axis by independent hinges or pivots for each radial arm.

Seventh, attaching the beaters and rake heads at such an angle with a radial line that the rake heads and beaters shall approach to and pass over the cutter in a line nearly parallel to the cutter, when the axis of the rake and reel is located in the rear of the cutter bar.

Eighth, the boxes or bearings K K, for carrying the pivoted radial arms, in combination with the central revolving hub.

Ninth, the combination of a revolving rake and reel, a vibrating frame or its equivalent, and a hinged platform.

Tenth, arranging the revolving rake and reel, supported to vibrate about a gear center, so that the raising or lowering of the cutter does not interfere with the operation of the driving mechanism.

Eleventh, the combination of a revolving rake and reel apparatus, which is supported between the driving wheels and a hinged platform by means of an intermediate connecting piece, for the purpose of conforming the movements of the rake to the platform in passing over uneven ground.

Twelfth, the combination of a quadrant platform, a hinged finger beam, and a frame supported on two wheels.

Thirteenth, the combination of a quadrant platform and a hinged finger beam suspended from a frame supported on two wheels.

Fourteenth, the combination of a quadrant platform, a hinged finger beam, a two-wheeled frame, and a rake moving in the arc of a circle.

**2,440.**—GEORGE GEER, Douglas, Ill.—*Corn Harvester*.—Patented June 2, 1863; reissued January 1, 1867.

*Claim.*—First, the endless chain M, provided with pivoted teeth n, substantially as and for the purpose set forth.

Second, the serrated wheels f' f', arranged and applied to operate as and for the purpose specified.

Third, the cutter U, operated by treadle n' and arranged and applied as and for the purpose set forth.

Fourth, the bar or guard l, arranged and applied underneath the cylinder H, substantially as and for the purpose set forth.

Fifth, the plate or guard N attached to the plate J, as and for the purpose specified.

**2,441.**—NICHOLAS HALLOCK, Flushing, N. Y.—*Fruit Box*.—Patented September 7, 1858; reissued January 1, 1867.

*Claim.*—First, a fruit box, constructed of thin sheets or strips of material, which form the body and bottom of the box, and secured together, substantially as described and specified.

Second, in combination with a box constructed of thin sheets or strips of material, substantially as described, so arranging the handle as that it may be attached to and folded closely within the box, substantially as described and specified.

Third, defining the outline or shape of the box by means of grooves in the material forming the box, substantially as described and specified.

Fourth, in fruit boxes, constructed substantially as described, making the bottom hollow so that boxes may be placed one above the other without injury to the fruit in the one below it and for better ventilation of the fruit, substantially as described and specified.

**2,442.**—HENRY JOHNSON, Chicago, Ill., assignee by mesne assignments of W. J. JOHNSON.—*Spring Holders for Wiping Cloths*.—Patented February 21, 1867; reissued January 1, 1867.

*Claim.*—The spring holder for cloths, consisting of two or more curved spring fingers, arranged substantially as and for the purposes described.

**2,443.**—GEORGE L. MORRIS, Taunton, Mass.—*Nicking Screw Heads*.—Patented June 12, 1866; reissued January 1, 1867.

*Claim.*—The improved two-nicked screws, made either by casting or cutting, having the said nicks flaring at their outer ends, and with the separating part between strengthening the head, the two nicks being made on the line of one and the same diameter of the screw head, all as and for the purposes specified.

**2,444.**—G. M. PARTON, Bath, Mo.—*Machine for Making Clinch Rings*.—Patented May 2, 1854; reissued January 1, 1867.

*Claim.*—The combination of the retainer and clearer or part G and its springs, or the equivalent thereof, and the elastic seat H, with the dies E and F, the upper die being provided with mechanism for operating it, as described.

Also, the combination as well as the arrangement of the retainer or part G and its springs, or their equivalents, with a pinch and die or dies E F, the



said part G being to operate therewith, substantially as described.

**2,445.**—WILLIAM MONT STORM, New York, N. Y.—*Breech Loading Fire Arm.*—Patented July 8, 1856; reissued January 1, 1867.

*Claim.*—First, a breech piece hinged at its front end and swinging upward and over, substantially as described, in combination with a stationary or fixed recoil bearing at its rear end, having the characteristic features of being firmly connected with the barrel, and being extended above the line of the bore of the barrel, substantially as and for the purpose set forth.

Second, cutting away the recoil-bearing surface, substantially as described, for the purpose set forth.

Third, the internal bolt *e*, operated by a positive motion to lock in place the movable breech piece of a breech-loading fire arm during the fall of the hammer, or its equivalent, substantially in the manner described.

Fourth, forming a space or recess between the lower side of the breech piece and the seat into which it shuts for the accommodation of dirt, which would otherwise prevent the descent of the breech piece, as hereinbefore fully explained.

**2,446.**—WILLIAM MONT STORM, New York, N. Y.—*Breech-loading Fire-arm.*—Patented July 8, 1856; reissued January 1, 1867.

*Claim.*—First, a chambered breech piece, when such breech piece is hinged at its forward end to the barrel and arranged to swing over, substantially as described, for the purpose set forth.

Second, in combination with the barrel and movable breech, a packing tube or ring, arranged to slide within the breech piece, and formed at the front end to enter the barrel, so that by the force of the discharge the said tube will be forced forward and into the barrel, and made to pack the joint between the barrel and breech piece to prevent the escape of the explosive gases.

Third, the manner, substantially as shown and described, of coupling the bolt *e* with the tumbler, so that although said bolt is operated by a positive motion, as described, the lock can be removed regardless of the barrel and bolt, as hereinbefore set forth.

**2,447.**—WILLIAM N. ELY, Stratford, Conn., assignee of E. M. STEVENS.—*Hand Pegging Machine.*—Patented August 6, 1861; reissued January 8, 1867.

*Claim.*—First, feeding the machine forward upon the work by means of the awl or a piercing instrument, substantially as described.

Second, graduating the spaces between the peg holes by regulating the throw of the awl, substantially as described.

Third, making the awl and peg driver in two pieces and uniting them to a plunger, so that whilst both rise and descend together one of them shall have a lateral motion, for the purpose of feeding the machine to the work, substantially as described.

Fourth, feeding forward the peg wood by means of the action of the plunger in combination with the device I, or its equivalent, substantially as described.

**2,448.**—J. ALBERT ESHLEMAN, Philadelphia, Pa.—*Neck Tie Holder.*—Patented January 31, 1865; reissued January 8, 1867.

*Claim.*—First, a plate or holder A secured in front of a collar, so as to be detachable from the same, and adapted for the reception and retention of a detachable ribbon or tie, substantially as described.

Second, in combination with a plate or holder, the elastic loop *c*, composed of wire, parts of which are rendered elastic by being coiled, and the transverse portion of which is plain, so as to readily fit over the stud or button.

**2,449.**—JOHN C. LEE, Gonzales, Texas, assignee of Z. W. LEE.—*Cotton Bale Tie.*—Patented October 16, 1866; reissued January 8, 1867.

*Claim.*—The metallic band B, having the bend *b* at one end, and applied substantially in the manner and for the purpose described.

**2,450.**—THE RUSSELL AND ERWIN MANUFACTURING COMPANY, New Britain, Conn., assignees of

NATHANIEL WATERMAN.—*Egg Pan and Cake Baker.*—Patented April 5, 1859; reissued June 19, 1866; and again reissued January 8, 1867.

*Claim.*—A baking pan composed of a series of distinct cups or baking compartments, all connected together, cast in one piece, and forming one utensil, but perforated with intermediate open spaces C, for the distribution of currents of heated air among the several compartments, the whole article being substantially such as specified.

**2,451.**—GEORGE CROMPTON, Worcester, Mass., assignee of JAMES GREENHALGH.—*Loom.*—Patented November 2, 1852; extended November 2, 1866; reissued January 15, 1867.

*Claim.*—First, a series of long upright levers, one for each leaf of heddles, and each connected at each end to a leaf of heddles, substantially as described, in combination with a series of vibrating attachments capable of motion in at least two directions, as specified, the combination being as described, whereby power may be applied either to lift or depress leaves of heddles, in the manner specified.

Second, a series of long upright levers, one for each leaf of heddles, and each connected to a leaf of heddles, substantially as specified, in combination with a series of vibrating attachments capable of motion in at least two directions, as described, and a pattern cylinder or chain which determines the position of said attachments, and consequently the direction in which each lever shall be reciprocated prior to the movement thereof, the combination being substantially such as hereinbefore described.

Third, the series of upright levers and of vibrating attachments, and the pattern chain or cylinder, all in combination as specified in the second claim, in combination with reciprocating mechanism, which, through the intervention of the vibrating attachments, and the series of upright levers, and the connections, shifts the sheds by acting on the leaves of heddles, the combination being such as herein set forth.

Fourth, in combination with leaves of heddles, and a series of upright levers, having characteristics as described, an adjustable connection between said levers and leaves of heddles, whereby the range of perpendicular motion of the heddles may be changed without altering range of horizontal motion of the levers, or the range of motion of the reciprocating mechanism, the combination being and acting as described.

Fifth, in combination with a series of upright levers having characteristics as specified, and operating to elevate and depress leaves of heddles, eveners or adjusters operating substantially in the manner and for the purpose described, and also in combination with said series of levers and their eveners, a series of vibrating attachments, and also, in combination with said series of levers, eveners, and vibrating attachments, reciprocating mechanism to move the levers which are returned to their mean position by the eveners, these three combinations each being and operating as specified.

Sixth, in combination with a series of upright levers having characteristics as specified, a pattern chain or cylinder, and a series of vibrating attachments, toes through which the chain or cylinder acts upon the vibrating attachments, this combination being and acting substantially as described.

Seventh, the arrangement, substantially as described, of leaves of heddles, side of the loom frame, series of the upright levers, and pattern cylinder or chain, substantially as described, the gist of the arrangement being that the leaves of heddles are within the frame, the upright levers close to but outside of the frame, and the pattern chain outside of the levers, whereby the advantages herein described are attained.

Eighth, arranging the vibrating attachments and their pivots above the axis, upon which the upright levers oscillate with the pattern chain below the vibrating attachment, substantially in the manner and for the purpose specified.

Ninth, a series of upright levers, having characteristics as specified, in combination with leaves of heddles, and a pattern cylinder or chain, as described; also, these elements of a machine in combination with reciprocating mechanism, the combination being substantially such as herein specified.

Tenth, in combination with a series of upright levers, and heddle leaves, and cords connecting them,



an adjustable mechanism, as described, whereby the tension of the cords may be varied, as set forth.

Eleventh, in combination, reciprocating mechanism and vibrating mechanism, whereby the two gear together in manner described, whereby the vibrating attachments are prevented from moving faster than the reciprocating mechanism, as set forth; and also these mechanisms thus constructed, to gear together in combination with a pattern chain, substantially as described.

Twelfth, in combination with vibrating pieces so constructed as to embrace reciprocating mechanism, a reciprocating mechanism, a pattern chain or cylinder, and a series of long upright levers, having characteristics as set forth, all substantially such as described, and acting in combination as set forth.

Thirteenth, constructing long upright levers, having characteristics and connections as described, with a bend therein as specified, so that their weight is outside of the axis upon which they oscillate, thereby attaining the results desired and described.

**2,452.**—ANDREW J. HOLMAN, Philadelphia, Pa., assignee of J. S. BUTTERFIELD.—*Harvester*.—Patented March 2, 1858; reissued January 15, 1867.

*Claim.*—First, the driver's seat D, supported as described, lever G, and wheel H, in combination with the main frame and cutting apparatus, substantially as described.

Second, the reversible arm Q, constructed as and for the purposes set forth.

**2,453.**—ANDREW J. HOLMAN, Philadelphia, Pa., assignee of J. S. BUTTERFIELD.—*Harvester*.—Patented March 2, 1858; reissued January 15, 1867.

*Claim.*—First, in combination with a reel supported on a single post, an adjustable mechanism by which the reel may be raised up or let down upon the post, substantially as described.

Second, supporting a reel on a single pivoted post, so arranged that it may be leaned more toward or from the standing grain or grass, in combination with an adjusting mechanism by which the reel can be raised up or let down upon the post, substantially as and for the purpose set forth.

**2,454.**—ANDREW J. HOLMAN, Philadelphia, Pa., assignee by mesne assignments of McCLINTOCK YOUNG, Jr.—*Harvester*.—Patented July 9, 1861; reissued January 15, 1867.

*Claim.*—First, driving an automatic rake on a two-wheel hinged bar machine by mechanism located outside of the wheels instead of between the wheels.

Second, locating the vertical axle of an automatic revolving rake upon the platform of a harvester at or near its inner front corner.

Third, driving an automatic rake located on the platform of a two-wheel hinged bar machine by means of a jointed tumbling shaft driven from the end of the main axle.

Fourth, the combination of a hinged platform with an automatic rake located at or near its inner front corner.

Fifth, in a floating finger bar machine, the combination of a revolving rake and reel supported wholly upon the platform at or near its inner front corner in a removable frame, so that the said machine can be readily converted from a mower to an automatic reaper, and *vice versa*.

Sixth, in a hinged finger bar machine rigidly connecting the rake frame to the platform on which it is supported in such manner that the rake shaft does not change its relative position to the platform in passing over uneven ground.

Seventh, attaching the revolving rake and reel arms directly to the upper side of the crown or bevel wheel by which they are driven.

Eighth, locating the crown or bevel wheel to which the arms of the revolving rake or reel are attached below the top of the driving wheel.

Ninth, combining a segmental cam or guide with a series of rake and reel arms so attached together in pairs diametrically that while one rake is moving in contact with the grain its opposite arm shall be thrown up to any desired extent to clear the driving wheel and main frame.

Tenth, arranging the shaft which drives the revolving rake and reel located on the platform of a floating finger-cutting apparatus in such a manner

that the said shaft shall vibrate around the main shaft at a center when the cutting apparatus is raised and lowered.

Eleventh, the construction and adaptation of a combined rake and reel which revolves entirely around a vertical center so that the revolving rake and reel arms may be attached to the driving hub or wheel inside of the plane of the main driving gear wheel and below the highest point of said wheel.

Twelfth, the combination of a revolving rake and reel and a hinged bar machine when the arms of said revolving rake and reel are attached together to the head at such an angle as in their revolution to be thrown up so as to leave an unobstructed space on the machine.

Thirteenth, attaching the frame or support of the continually revolving rake to the removable platform so that the entire rake apparatus can be removed with the platform for converting the machine from a reaper to a mower.

Fourteenth, driving the continuously revolving rake arms by the upper surface of a crown wheel, in combination with supporting that crown wheel on top of a vertical standard, and attaching to the same vertical standard a horizontal stud on which the driving pinion revolves.

Fifteenth, a rake rotating upon an axis which is perpendicular to the top surface of the platform, and having its arms successively elevated, substantially as and for the purpose described.

Sixteenth, a standard or support which sustains the sweep rake above the draft frame or driving wheel rail standard, being mounted wholly upon the platform of the hinged machine and below the top of the driving wheel.

Seventeenth, making a finger bar in two sections, one long and one short, the short sections being connected to the platform and removable with it, so that as the platform is attached to adopt the machine for harvesting grain or removed to adapt it to the cutting of grass, the finger bar shall be correspondingly lengthened and shortened as has been found advantageous in harvesting the different materials, substantially as described.

**2,455.**—E. A. POND and M. S. RICHARDSON, Rutland, Vt.—*Gas Apparatus*.—Patented March 27, 1866; reissued January 15, 1867.

*Claim.*—First, the use of hydro-carbureted air for head lights of locomotives, substantially as herein described.

Second, the application to locomotive engines of an air pump operated from an independent steam cylinder deriving its steam from the locomotive boiler, said air pump being connected with a suitable apparatus for carbureting atmospheric air, and with burners in the head lantern and the cars, substantially as set forth.

Third, the construction of the air pipe with branches and stop-cocks, so as to supply the vaporizer with hot or cold air, at pleasure, substantially as set forth.

Fourth, generating illuminating gas by means of an apparatus consisting of the combination with a vaporizer of an air pump driven by a gas engine, which receives its supply of gas from the gas generator, substantially as herein described.

**2,456.**—LEWIS C. REESE, Phillipsburg, N. J., assignee of THOMAS S. WHITENACK.—*Harvester Rake*.—Patented February 5, 1861; reissued January 15, 1867.

*Claim.*—First, constructing and arranging the raking and reeling apparatus in such a manner that the rake may act as a reeling apparatus, and at the will of the operator the raking teeth may be kept above the platform so as not to sweep the grain from the platform.

Second, a combination of a revolving rake on an axis, vertical or nearly so, and an unobstructed space for the driver to sit on the machine.

Third, the combination of a continuously revolving rake, whose arm is pivoted to an axis, vertical or nearly so, and an unobstructed space for the driver to sit on the main frame.

Fourth, the employment or use of the slides G when applied to the arms F, substantially as shown, for the adjustment of the same as set forth.

Fifth, the rollers I I', when applied to the main



frame A and used in connection with the arms F to operate as and for the purpose set forth.

Sixth, attaching the beaters L and rake K to the arms F by means of the sockets J, constructed and arranged as shown to admit of the adjustment of the beaters and rake, specifically as set forth.

Seventh, in combination with the arms F, the lever N attached to the main frame A, and provided with the curved bar l placed in such relation with the arms to operate as and for the purpose set forth.

**2,457.**—SAMUEL S. SHERMAN and JEREMIAH G. SHERMAN, McHenry, Ill.—*Harvester Rake*.—Patented March 6, 1866; reissued January 15, 1867.

*Claim.*—First, providing the arm C D, which attaches the rake to the reel, with an elbow or joint which allows the rake at the proper time to drop down from the reel upon the platform, substantially as and for the purpose herein specified.

Second, in combination with the rake an arm with one end attached to the rake and the other end attached to a reel arm, or its equivalent, directly behind the rake, and operating upon the rake so as to cause it to sweep the platform in an arc of a circle, while one end of the rake is held stationary or nearly so, substantially as and for the purpose described.

Third, the employment of the rod J and cam K, in combination with the reel and arm C D, for the purpose of raising the rake up from the platform when desired, and arranging it upon the reel as and for the purposes specified.

Fourth, in combination with said reel, jointed arm and rake, an automatic catch operating in connection therewith so as to secure the rake to the reel until released therefrom, substantially in the manner described.

**2,458.**—JOSEPH C. HENDERSON, Albany, N. Y.—*Cooking Stove*.—Patented May 29, 1860; reissued June 30, 1863, and again reissued January 15, 1867.

*Claim.*—First, the employment of a supply chamber *e* separated from the combustion chamber *l* by means of the division plate *g* or any equivalent therefor, and each so arranged that the fresh fuel shall be fed at the side of the burning fuel, in the manner and substantially as and for the purposes herein described and set forth.

Second, the combustion chamber *l* contracted at the top to prevent the too rapid escape of the gases of combustion, in combination with the supply chamber *e*, substantially in the manner and for the purposes hereinbefore described and set forth.

Third, the employment of the division plate or partition *g*, or its equivalent, so constructed and arranged as to divide the fire chamber or chamber of combustion and thereby constitute the chambers *l* and *e*, in the manner and for the purposes substantially as herein described and set forth.

Fourth, so constructing and arranging the said division plate *g* between said chambers *l* and *e*, that atmospheric air may be admitted into and through it to the fire, so as to more perfectly consume the gases as they are evolved from the burning fuel, in the manner substantially as herein described and set forth.

Fifth, the employment of the plate *p* for the purpose of retaining the gases in contact with the fire until they are entirely consumed, substantially as hereinbefore described and set forth.

Sixth, constructing the said plate *p* in such a manner that air can be introduced through it to the surface of the fire, substantially as and for the purpose hereinbefore specified and set forth.

Seventh, the supply chamber *e*, combustion chamber *l*, division plate *g*, and plate *p*, all combined and operating substantially in the manner and for the purpose hereinbefore specified and set forth.

Eighth, the employment of the narrower contracted throat *q* when applied to cooking stoves or furnaces, in the manner and for the purposes substantially as herein described and set forth.

Ninth, the employment of the supply chamber *e* when applied to cooking stoves or furnaces, and therein constructed and arranged immediately in front of the combustion chamber, substantially in the manner and for the purposes as herein described and set forth.

**2,459.**—JOSEPH C. HENDERSON, Albany, N. Y.—*Heating and other Stoves*.—Patented May 29, 1860;

reissued June 30, 1863, and again reissued January 15, 1867.

*Claim.*—First, a reservoir or hopper contracted at its lower end to contain and supply fuel, in combination with a fire pot separate from said reservoir, and to which the coal is supplied at or near its center, so that the products of combustion pass away from the surface of the fire around the contracted base of the said hopper, substantially as specified.

Second, a chamber or horizontal flue around the base of the reservoir or hopper supplying coal, and over the surface of the fire to receive and detain the products of combustion in contact with the fire heat until perfectly consumed, substantially as herein fully described and set forth.

Third, a contracted outlet or opening from the said chamber or horizontal flue formed as aforesaid to prevent a too rapid escape of the products of combustion, as specified and set forth fully hereinbefore.

Fourth, the surrounding case *b* in combination with the said hopper, fire pot, and chamber above the fire, for receiving the products of combustion from the said chamber and radiating heat, substantially as and for the purposes hereinbefore fully described and set forth.

Fifth, in combination with a hopper over the fire, a circulating current of air surrounding such hopper, to aid in cooling the fuel in said hopper, substantially as hereinbefore fully described and set forth.

Sixth, the supply door *f* and register *i*, in combination with the hopper *e* and draft space *g*, substantially as herein described and set forth.

Seventh, a circulating current of air passing through the hollow lower end of the supply hopper and entering the combustion chamber over the fire, for promoting combustion and keeping the hopper from injury by heat, as described and set forth.

**2,460.**—AARON HIGLEY, South Bend, Ind.—*Braking and Starting Street Railway Cars*.—Patented August 14, 1866; reissued January 15, 1867.

*Claim.*—First, the construction and arrangement of the wheels, pullies, levers, chains, and windlasses in their relation to each other, in the manner and for the purpose herein described.

Second, the combination of the loose pulley E E' and the loose clutch pulley F and D', with the clutch wheel D', which latter is rigidly attached to the axle *a*, in the manner and for the purpose herein described.

**2,461.**—CHRISTOPHER R. JAMES and NATHAN W. CONDUCT, Jr., Jersey City, N. J., assignees of C. R. JAMES.—*Means for Operating Stamps and Hammers*.—Patented June 19, 1866; reissued January 15, 1867.

*Claim.*—First, in combination with the steam cylinder of a hammer or stamp, a reservoir containing steam, compressed air or other aeriform fluid, of sufficient pressure to elevate the stamp but sensibly less than that of the steam in the boiler when constructed, arranged, and operating substantially as set forth.

Second, the arrangement, in combination with two stamps or hammers, worked by pistons moving in separate cylinders, of the valve operated by said stamps or hammers in the manner described, with passages controlled by it, so arranged as to bring each cylinder alternately into communication with the boiler, and thereby produce the alternate action of the pistons and their attached stamps or hammers, essentially as herein set forth.

**2,462.**—EUGENE N. JENKINS, Chicago, Ill.—*Lantern*.—Patented July 24, 1866; reissued January 15, 1867.

*Claim.*—First, the band D, provided with a plate or disk E, for supporting the lantern globe, substantially as specified.

Second, the combination of the band D, disk E, springs *a*, or ledges *c* with the base C, substantially as and for the purposes specified.

Third, extending the guard rods F, and connecting them directly to the bottom or flanged part of an annular base having an opening in it sufficiently large to allow the globe to pass through it, substantially as set forth.

**2,463.**—WILLIAM W. LYMAN, West Meriden, Conn., assignee by mesne assignments of ELBRIDGE



HARRIS,—*Sealing Fruit Jars*.—Patented February 9, 1864; reissued January 22, 1867.

*Claim*.—First, forming a groove or depression in or around the neck of a can, for the retention of an elastic ring or band impervious to air, substantially as and for the purpose described.

Second, the employment of an elastic ring or band when used between the rim of a cover and the neck of a can, substantially as and for the purpose described.

Third, as a new article of manufacture, fruit jars composed of the rim cap G G', elastic ring or band B, and jar or can D, substantially as and for the purpose described.

Fourth, the rebate formation C', in combination with the elastic band B, and the flange G', substantially as and for the purpose described.

**2,464.**—ADAM R. REESE, Phillipsburg, N. J.—*Harvester Rake*.—Patented February 16, 1864; reissued January 22, 1867.

*Claim*.—First, in a floating-beam harvester, a rake standard rigidly attached to and vibrating with the platform and supporting the rake shaft between the driving wheels.

Second, the combination of radial rake arms pivoted between the vertical rake shaft and the rake head, and a guide located between the rake shaft and the pivot.

Third, the combination of revolving rake and reel arms with a cam way between two parallel cams, for the purpose of keeping the rake and reel arms firmly in position while revolving.

Fourth, the combination of a hinged platform, a support of the revolving rake rigidly attached to and moving with the said platform or finger beam and radial pivoted rake arms.

Fifth, the combination of the rake shaft K, with the driving shaft o, by means of the endless chain M, when arranged and operating substantially in the manner described, for the purpose of driving the rake in any position of its shaft without the intervention of gearing, as set forth.

**2,465.**—ADAM R. REESE, Phillipsburg, N. J.—*Harvester Rake*.—Patented May 1, 1866; reissued January 22, 1867.

*Claim*.—First, in a harvester having a hinged cutting apparatus, the combination of a revolving rake and reel attached to and vibrating with the platform of said harvester, and a driver's seat located upon the main frame, the whole so arranged and operating that the rakes shall not revolve over the driver.

Second, the combination of a hinged cutting apparatus, a driver's seat on the main frame, and hinged radial rake or reel arms.

Third, the combination of the finger beam and main frame with the tubular X-shaped frame G G', as described, for the purpose of supporting and bracing the rake shaft.

Fourth, the combination of a revolving rake and reel attached to and moving with the platform of a hinged finger-beam machine and endless chain and shives having pockets or cells, whereby the revolving rake and reel can be driven while it is free to rise and fall with the platform.

Fifth, the combination of an endless driving chain, a pulley on the main shaft, a corresponding pulley on the vertical or nearly vertical revolving reel and rake shaft mounted on the finger beam or its extension and the intermediate guide for guiding the chain, between the main shaft and rake shaft.

**2,466.**—CHARLES T. EAMES, Milford, Mass.—*Boot Tree*.—Patented May 27, 1856; reissued March 25, 1862; and again reissued January 29, 1867.

*Claim*.—First, the combination of the rod D, constructed substantially as described, directly with the front B, for the purpose specified.

Second, the arrangement together of the rod D, the lever H and its spring, and the front B, substantially as described.

Third, a boot tree, constructed in two parts A and B, when such parts are combined by means of a rod, cam, and incline, substantially as and for the purpose specified.

Fourth, the use in a boot tree of a single cam and incline, when the cam is attached to the lower end of the stretching rod, and traverses upon the inclined

plane located in the back at or near its lower end, and operating substantially as described.

**2,467.**—W. P. PENN, Belleville, Ill.—*Seeding Machine*.—Patented December 27, 1859; reissued January 29, 1867.

*Claim*.—First, so combining a grain hopper and a grass-seed hopper in a seeding machine that the grass-seed hopper, being in front of the grain hopper, shall distribute its seed in advance of the grain and amidst of the rolling earth, as it is lifted by the teeth of the drill, substantially as and for the purpose specified.

Second, so combining a deflector with a grass and grain seed hopper, combined as specified, that said deflector shall deliver the grass seed in advance of the grain and upon the upturning earth, substantially as and for the purpose specified.

**2,468.**—C. W. SWEET and JOHN F. GREENE, New York, N. Y., assignees of HENRY D. SMITH.—*Preparing Chewing Tobacco*.—Patented March 14, 1865; reissued January 29, 1867.

*Claim*.—Enveloping the fine-cut tobacco in tobacco leaves, or the equivalent thereof, and subjecting it, when enveloped to pressure, substantially as described and for the purpose set forth.

**2,469.**—ADAM R. REESE, Phillipsburg, N. J., assignee by mesne assignments of A. R. REESE, W. GOULD, and N. LAKE.—*Harvester Rake*.—Patented November 5, 1861; reissued January 29, 1867.

*Claim*.—First, the combination of an endless chain with a pulley on the main shaft, having projections which enter into the links of the chain, and the corresponding pulley geared to the revolving rake and reel shaft, substantially as described.

Second, supporting the revolving rake and reel upon a detachable frame, so that the entire raking and reeling apparatus can be bodily removed without disarrangement of parts, for the purpose of converting the machine from a reaper to a mower.

Third, the combination with a harvester of the removable revolving rake and reel frame with the raker's seat or support, so as to give the machine a capacity to be converted from an automatic to a hand raker.

**2,470.**—C. H. HALL, Binghamton, N. Y.—*Apparatus for Distilling Petroleum and other Liquids*.—Patented June 26, 1867; reissued January 29, 1867.

*Claim*.—First, in the continuous distillation of petroleum or other liquids, the use of a retort B, in combination with furnace D and arch C, substantially as shown and described and for the purpose set forth.

Second, passing the liquid to be distilled through the retort in the form of a thin stratum, substantially as and for the purpose described.

Third, the device, herein described, for generating steam, consisting of the water jacket G, and water-supply pipe Y, and steam tube I, in combination with condensing tube F, substantially as shown and described, or any other means whereby steam is generated by passing the vapors of oil or other liquids being distilled through a vessel containing water, or vice versa.

Fourth, the method, herein described, of separating the condensable vapors from the non-condensable gases, or any other method whereby the condensable vapors are made to collect in the lower part of a receiver while the non-condensable vapors are made to pass off by the suction of a current of steam, substantially as herein set forth and for the purpose specified.

Fifth, the water jacket G', connected with supply pipe H and water tank R, in combination with tubular condenser E, operating as described, or in any other manner to accomplish the purpose specified.

Sixth, the receiver L, in combination with tubular condenser F, steam pipe K, and discharge pipe O, operating substantially as and for the purpose shown and described.

Seventh, the annular chamber E, composed by an inner and outer vessel, in combination with the condenser F, constructed and operating substantially as and for the purpose specified.

Eighth, the method, herein described, of freeing the retort B from residuum, or any other equivalent means whereby a retort or still is freed of its residuum



by the force of a jet of steam, operating substantially as shown and described.

Ninth, the within-described process of cleaning the residuum by treating it with steam and water, substantially in the manner described and for the purpose set forth.

**2,471.**—SPARROW M. NICKERSON, Chicago, Ill., assignee of CALVIN J. HOLMAN—*Sawing Machine*.—Patented December 8, 1863; reissued January 29, 1867.

*Claim.*—First, supporting the saw upon the rollers *a p* within the saw, one of which is adjustable, so as to adapt the rollers to the wearing out of the saw, substantially as herein described.

Second, so arranging the saw A upon interior supporting rollers and their shafts in such a manner that the saw A revolved by a band passing around it, as before mentioned, will communicate power through the medium of the interior rollers and shafts to other parts of the machine or other machines, substantially as herein specified and shown.

**2,472.**—PETER V. STAATS, ADAM R. REESE, C. S. MELICK, ANDREW J. FARRAND, GEORGE SWEENEY, JOHN W. DEAN, and RUFUS SLIKER, Raritan, N. J., assignees by mesne assignments of JOHN G. DUNHAM.—*Reaping and Mowing Machine*.—Patented September 22, 1857; reissued February 5, 1867.

*Claim.*—First, the removable piece L attached to the shoe or cutter bar and extending over and in advance of the cutter bar, in combination with a caster wheel M attached to said piece L, substantially as and for the purpose specified.

Second, attaching the sickle bar to the main frame by means of the sliding arm I and slotted frame J, the latter being longitudinally and laterally inclined, so that the height of the cut may be regulated without materially altering the relation of the guards to the knives, substantially as set forth.

Third, the combination of the caster wheel M and a series of sockets *ll*, when the latter are attached to the piece L and the power so arranged that it may turn under the platform, substantially as and for the purpose set forth.

**2,473.**—DARIUS SKIDMORE, Seneca Falls, N. Y.—*Fastening Door Knobs to their Spindles*.—Patented July 15, 1862; reissued February 5, 1867.

*Claim.*—Covering or inclosing the end of the coupling pin of the knob shank and spindle, wholly or partially, by the socket or eye of the rose, substantially as and for the purpose herein specified.

Also, a smooth coupling pin *b*, retained in its hole by its gravity, in combination with the covering thereof by the socket or sleeve of the rose, substantially as herein set forth.

**2,474.**—BARNARD, SON & Co., Waterbury, Conn., assignees of WILLIAM B. BARNARD.—*Shears*.—Patented December 27, 1864; reissued March 27, 1866; and again reissued February 12, 1867.

*Claim.*—Uniting the blades and handles of shears, lamp trimmers, and similar instruments by means of one or more rivets homogeneous with said handles, in combination with a rebate or recess of any suitable form, made in the end of the handle to receive the inner end or tang of the blade when the shoulder or inner edge of the recess does not project above the face of said tang after it has been properly secured therein, all substantially in the manner and for the purpose herein set forth.

**2,475.**—J. FREDERICK DUBBER, Brooklyn, N. Y.—*Pocket Book*.—Patented January 10, 1865; reissued February 12, 1867.

*Claim.*—A pocket book or other similar article provided with one or more strips *d* of steel or other elastic material, in the edge or edges of its closing flap *c*, substantially as and for the purpose described.

**2,476.**—SAMUEL B. SEXTON, Baltimore, Md.—*Heating Stove*.—Patented April 19, 1859; reissued December 3, 1861; again reissued February 6, 1864; again reissued September 27, 1864; and again reissued February 12, 1867.

*Claim.*—First, a stove for warming or heating purposes, constructed with a fuel magazine supported free from the grate, and a combustion chamber hav-

ing a grated fire and air supplying bed of a greater diameter than the fuel magazine, so arranged and constructed that the fuel can spread out laterally and form a conical pile, and burn in thin layers out to the wall of the stove, so that the inflamed gases may burn in a free space as they are evolved from the entire outer surface of the incandescient conical pile of coals and so that air shall be supplied in a direct manner through the grate in said free space, substantially as and for the purposes described.

Second, in combination with the subject-matter of the first claim, constructing the combustion chamber A with projecting window frames or door frames, substantially as and for the purposes described.

Third, a stove for warming or heating purposes embracing the features of construction mentioned in first claim, and the additional feature of the gas or products of combustion, circulating apartment above and around the upper portion of the magazine, substantially as and for the purposes described.

Fourth, a stove for warming and heating purposes, wherein the spreading of the coals in a lateral direction from the lower end of the magazine is wholly unobstructed all around and out to the wall of the stove A, and at the same time the combustion chamber proper is formed by the outer wall of the stove, and the products of combustion circulate underneath and around the magazine, in combination with illuminating doors or windows in the said outer wall, said windows or doors being located above the grate and above the upper margin of the lining of the wall, substantially as and for the purposes described.

Fifth, the combination of a fuel-supply magazine H, which has its lower end free from the grated fire bed G, and an unobstructed space below it where the fuel may spread out laterally and burn in a conical pile and in thin layers to the outer wall of the stove, with a stove A, which has illumination doors or windows in its wall above the lining, all in such manner that the fire can be kindled through the apertures which are covered by the doors or windows, substantially as set forth.

Sixth, the combination of the unobstructed free space F, out to the wall of the stove above the lining, the illumination windows or doors in wall A, and gas circulating space *p* around the circumference of the magazine, substantially as described.

Seventh, in a coal-supply magazine stove, the extended grated surface of the fire-bed outside of reservoir or magazine, in combination with the free space around the magazine of a base-burning stove, substantially as described.

Eighth, increasing the combustion and the consequent heating effect of the coal, and also insuring a more brilliant illumination of the wall of the stove, by constructing, arranging, and combining the combustion chamber proper, the magazine, and the grated fire bed, all substantially in the manner herein specified.

**2,477.**—WILLIAM S. HICKS, New York, N. Y.—*Pen and Pencil Case*.—Patented September 12, 1865; reissued February 12, 1867.

*Claim.*—First, the case A, consisting of a simple tube, provided with the cap *e* and short inner tube *e*, arranged as set forth.

Second, in combination with a case consisting of a single tube the reversible handle, substantially as set forth.

**2,478.**—THOMAS HUNTINGTON, New Rochelle, N. Y.—*Boat Detaching Tackle*.—Patented June 5, 1866; reissued February 12, 1867.

*Claim.*—First, the employment or use of a single shaft C, arranged with hooks B in the manner shown, or in an equivalent way, so that by the turning of said shaft the hooks B may be simultaneously liberated to detach the boat from the davits.

Second, the hooks B, suspended or fitted in the plates A, in combination with the arms *e* attached to the shaft *c*, all being applied to the boat and arranged to operate substantially in the manner as and for the purpose set forth.

**2,479.**—JOHN and THOMAS INSULL, New Haven, Conn.—*Cupola Furnace*.—Patented May 8, 1866; reissued February 12, 1867.

*Claim.*—First, the annular air chamber C, in combination with one or more blast pipes D E and with



the furnace A, constructed and operating substantially as and for the purpose described.

Second, the partition *b*, in combination with the annular air chamber C, blast pipes D E, and furnace A, constructed and operating substantially as and for the purpose set forth.

Third, making the tweers oblong instead of round, as usual, for the purpose described.

Fourth, two or more rows of tweers placed in a zigzag position, substantially as and for the purpose set forth.

Fifth, the apertures *a'* in the outer wall of the air chambers C, in combination with the tweers *a*, constructed and operating substantially as and for the purpose described.

**2,480.—CHRISTIAN SHARPS, Philadelphia, Pa.—Many-barreled Fire-arm.**—Patented January 25, 1859; reissued June 18, 1861; and again reissued February 12, 1867. (Division A.)

*Claim.*—The combination of a discharge with the hammer and the devices herein described, or the equivalents to the same, for changing the position of the discharger on the movement of the hammer.

**2,481.—CHRISTIAN SHARPS, Philadelphia, Pa.—Breech-Loading Fire-Arm.**—Patented January 25, 1859; reissued June 18, 1861; and again reissued February 12, 1867. (Division B.)

*Claim.*—First, the lever M, with its projection V, and the rod N, in combination with the barrel and its stock, when the whole is arranged as set forth, and when the lever M is so formed as to serve the purpose of a trigger guard.

Second, causing the spent cartridges to be withdrawn from the barrel during the movement out of the same by means of a clip or clips applied and operating substantially as set forth.

**2,482.—WILLIAM P. WARE, Cincinnati, Ohio.—Ear, Cheek, and Chin Muffs.**—Patented July 6, 1858; reissued February 12, 1867.

*Claim.*—First, a muff or pocket for the ear, formed so as to surround the base of the ear, and extends of a size and shape to contain the ear and protect the same from cold, substantially as set forth.

Second, a cheek and chin muff suspended from the ears, substantially as specified, instead of being fastened around the neck or over the head.

Third, muffs or pockets formed to set over the ears, and held in place by a connection passing down under the chin, substantially as shown.

**2,483.—ROBERT T. CAMPBELL, Washington, D. C., assignee of THOMAS I. STEALEY.—Harvester.**—Patented December 15, 1857; reissued November 6, 1866; and again reissued February 12, 1867.

First, combining with a hinged platform, which is free to conform to the undulations of the ground, independently of the motions of the draft frame, or of the axle of the transporting wheels, a toothed rake which will deliver the cut grain upon the ground in gavels, and a reel or gathering device, which will press the standing grain toward the cutters, said rake and reel or gatherer being wholly supported upon said platform, substantially as described.

Second, combining with a hinged platform a toothed rake and a reel or gatherer, which are wholly supported upon and move in harmony with said platform, an adjustable hinged connection which will allow of the vertical adjustment of the cutting apparatus to adapt the machine to different heights of cut required, substantially as described.

Third, sustaining a toothed rake and a reel or gatherer wholly upon a platform, which is supported at its inner end by a vertically-adjustable joint, and at its outer end by a wheel, or its equivalent, substantially as described.

Fourth, suspending the rear inner end of a hinged platform, which has a toothed rake mounted wholly upon it, in such manner that this part of the platform can be adjusted vertically without changing the position of the forward adjustable hinge connection, substantially as described.

Fifth, the combination of a hinged finger-beam, a platform, and an auxiliary adjustable suspending and sustaining jointed or flexible connection, in such manner that the finger-beam and platform are suspended at their inner ends, and are so supported

upon a wheel, or its equivalent, at their outer ends as to conform at their outer ends to the undulations of the ground, independently of the main frame or of the axles of the supporting wheels, substantially as described.

Sixth, in combination with a vertically adjustable hinge joint and hinged finger beam and cutter bar, and with the crank *d*, for communicating motion to the cutters, and the universal joint *m* to connect the pitman I with the cutter bar, substantially as described, the adjustable blocks 1 and 2 for tightening the joint around the crank wrist, substantially as set forth.

Seventh, the combination of crank shaft O with adjustable bearing *a a*, the pitman Q, and the oscillating rake S, substantially as described.

Eighth, hanging the reel to the rake frame or platform, and adjusting said reel to different heights by means of braces *w w*, or their equivalents, substantially as described.

**2,484.—PETER GEISER, Greencastle, Pa.—Grain Separator.**—Patented October 19, 1852; extended October 19, 1866; reissued February 19, 1867.

*Claim.*—First, a series of toothed bars G, attached directly to a crank shaft having cranks at varying angles, said bars having reciprocating motion in parallel vertical planes, and coming alternately or successively into action on the straw, substantially as and for the purpose set forth.

Second, in combination with the reciprocating toothed bars G, the trough A, when the bottom of the latter is subdivided into tight and open portions, substantially as and for the purpose set forth.

Third, so arranging the reciprocating toothed bar G on a crank shaft having cranks of varying angles that the whole shall be counterbalanced, substantially as set forth.

**2,485.—THE SILVER SKIRT AND WIRE MANUFACTURING COMPANY, New York, N. Y., assignees of T. S. SPERRY.—Manufacture of Skirt Wire.**—Patented March 7, 1865; reissued June 5, 1866; and again reissued February 19, 1867.

*Claim.*—Skirt wire protected wholly or partially by metal wire, substantially as and for the purpose set forth.

**2,486.—CHARLES W. WAILEY, New Orleans, La.—Cotton Bale Tie.**—Patented October 9, 1866; reissued February 19, 1867.

*Claim.*—The wrought or malleable iron self-fastening buckle or tie A, when provided with curved projecting lips B B' and openings C C', and otherwise constructed as described, for the purpose set forth.

**2,487.—CHARLES W. COE, Fentonville, Mich.—Drilling and Bolt Tapping Machine.**—Patented January 20, 1863; reissued February 19, 1867.

*Claim.*—First, the arrangement of the bevel gear wheels D E and H in such a manner that the shaft I may therefore be revolved with more or less speed and power for the different purposes to which the machine may be adapted, substantially as herein shown and described.

Second, the automatic feed arrangement, consisting of the ratchet M, pawl N, spring P, and cam Q, whereby the drill is fed to its work, substantially as set forth, the said feed arrangement being so made that it can be detached and the drill fed by hand, substantially as herein shown and described.

Third, in combination with the machine, the vice for holding bolts for making screws, said vice consisting of the jaws S S' and screw U, arranged in the base R of the frame, substantially as herein shown and described.

Fourth, the combination of the shaft I and screw K with the pinion H and nut L, whereby the rotary motion is given to the drill, and also the necessary feed, substantially as herein shown and described.

**2,488.—ORLANDO KELSEY and JOSHUA F. BAILEY, New York, N. Y., assignees of BENJAMIN F. HEDDEN.—Piston for Steam Engines.**—Patented August 4, 1863; reissued February 19, 1867.

*Claim.*—The combination of the following instrumentalities, viz., the piston, the expansible packing ring, and removable tubular case, with its valves and seats, substantially as set forth.



Also, the combination of the expansible packing ring for a piston with a cylindrical shell, substantially as set forth.

Also, the combination of the expansible packing ring, cylindrical shell, piston, and valvular apparatus, substantially as set forth.

**2,489.**—EDWIN R. KERR and JAMES L. PLATT, Kewanee, Ill., assignees of EDWIN R. KERR.—*Coal Dumping Apparatus*.—Patented October 2, 1866; reissued February 19, 1867.

*Claim.*—First, the chutes B, placed in a shed or building when provided with two doors C E, the outer ones E being so arranged or combined as to serve when lowered or opened as a continuation of chutes, substantially as shown and described.

Second, counterpoising the outer doors E by means of weights, substantially in the manner as and for the purpose specified.

Third, the doors C, when hung at their upper ends in combination with the bolts D at their lower ends, when said doors are applied to chutes B, for the purpose herein set forth.

Fourth, the chains or ropes G and weights F, for adjusting and supporting the outer end of the extension door E of a chute, substantially as specified.

**2,490.**—REUBEN HOFFHEINS, Dover, Pa.—*Harvester*.—Patented November 3, 1863; reissued November 7, 1865; and again reissued, February 19, 1867.

*Claim.*—First, the combination in a two-wheeled hinge joint machine of a driver's seat mounted upon the finger beam and rotating around a vertical axis, or one nearly so, substantially in the manner described, for the purpose of enabling the driver to ride on the machine while the rake is in operation.

Second, the combination in a two-wheeled hinge joint machine of a shoe, with a hinge joint in it, with a rake and platform having an extension J<sup>2</sup>, and with a draft frame which sustains the weight of the cutting apparatus, and raking apparatus with platform attached, at a point between the two drive wheels.

Third, the combination with the hinged joint machine of the inner shoe and raking apparatus, substantially as described.

Fourth, the combination of a revolving or turning rake, extensible tumbling shaft and driving shaft or axle of the main frame, substantially as described.

Fifth, the combination of a two-wheeled hinge joint machine, with a revolving raking apparatus and a driver's seat mounted on the main frame, substantially as described and for the purpose set forth.

Sixth, driving a revolving rake, or a combined revolving rake and reel, which move about a vertical or nearly vertical axis by a device arranged on the grain side of the inner drive wheel or inner side of the draft frame.

Seventh, making a direct driving connection between a revolving rake or a combined rake and reel, which move about a vertical or nearly vertical axis and the inner end of the main frame axle of the draft frame.

Eighth, employing a tumbler shaft on the inner side of the draft frame for driving a revolving rake, or a revolving rake and reel, which is mounted on a hinged finger beam or upon the platform.

Ninth, the combination of a quadrant platform, hinged finger beam, revolving rake and a driver's seat supported by the main frame.

**2,491.**—JAMES R. SPEER, Pittsburg, Pa.—*Clasp for Metallic Hoops*.—Patented December 1, 1857; reissued February 19, 1867.

*Claim.*—A clasp provided with an aperture or apertures, and so bent across said aperture or apertures as to present an opening or openings for the easy insertion of the ends of the bands or hoops, and form an efficient clasp for suenring the ends of the band or hoop, substantially as herein described and for the purpose set forth.

**2,492.**—ALEXANDER J. WALKER, New York, N. Y., assignee by mesne assignments of EMIL TRITIN.—*Lamp Burner*.—Patented August 19, 1862; reissued February 19, 1867.

*Claim.*—First, the ranges or series of elongated openings or slots introduced into the burner, and so arranged in respect to each other that the several

intervening supports of one series come opposite the openings in the next series, and thus compel the heat to traverse an indirect or zigzag route, and thereby lessen the heat conducted to the oil receptacle, substantially as set forth.

Second, constructing the wick tube in two parts, with an open space between the upper, which is exposed to the heat of the flame, and the lower part, which is directly connected with the reservoir, the two parts being connected substantially as herein described, so as to impede the induction of heat from the upper part of the wick tube to the oil in the reservoir.

**2,493.**—ALEXANDER J. WALKER, New York, N. Y., assignee by mesne assignments of MILLS L. CALLENDER.—*Lamp*.—Patented June 6, 1865; reissued February 26, 1867.

*Claim.*—First, sustaining the cone or deflector by supports that are bent or folded to allow of their being of increased length, for the purpose and substantially as specified.

Second, the plate h, extending across the cone or deflector g, and formed with the flame-spreading projections 2 2, for the purpose and substantially as set forth.

Third, the lips 1 1 and projections 2 2, on the plate h, in combination with the deflector g and wick tube, substantially as and for the purposes set forth.

Fourth, the india-rubber ring a, with an opening through which to fill the lamp, in combination with the rods c carrying the burner, as set forth.

**2,494.**—DANIEL E. PARIS, Troy, N. Y., assignee by mesne assignments of SAMUEL B. SPAULDING.—*Cooking Stove*.—Patented June 22, 1858; reissued May 17, 1859; again reissued June 19, 1866; and again reissued February 26, 1867.

*Claim.*—First, arranging the water boiler or reservoir back of the oven and below the top plate of the stove, substantially as described, in combination with the arrangement of flues described, or the equivalent thereof, as and for the purpose described.

Second, the arrangement of a boiler or reservoir in front of the stove, in combination with the extension of the bottom flues of the stove under the said boiler, substantially as and for the purpose described.

Third, the casing surrounding the bottom of the stove, in combination with the flues in the bottom, substantially as and for the purpose set forth.

**2,495.**—JUSTUS DAY, Murray, N. Y.—*Clamp for Making Brooms*.—Patented November 27, 1866; reissued February 26, 1867.

*Claim.*—First, in a clamp for forming brooms, the combination of the slot D with the socket E, for facilitating the winding of the broom head, as herein set forth.

Second, the combination of the loose rods or wires G G' with the slot D and socket E, operating in the manner and for the purpose set forth.

Third, a clamp for forming broom heads, combining a round socket or sockets E for winding the top of the broom, and an elongated socket or sockets K for binding it, as set forth.

Fourth, the arrangement as a whole, consisting of the clamp A B, sockets E K, slot D, and wires G G', operating in the manner and for the purpose herein set forth.

Fifth, the construction of a broom clamp, the levers A B of which are pivoted at their fulera by means of the link or links c, so as to be capable by reversing of bringing the sockets E and F successively into use, as set forth.

Sixth, in combination with the slot D, the beveled form of the sockets E F, whereby the fibers of the material are brought gradually to the greatest degree of compression at the point where they are wound, as shown.

Seventh, in combination with the reversible levers A B, provided with sockets on their opposite faces, the adjustable catch H, for holding them together in either position while the broom is being wound, as shown and described.

**2,496.**—ROLAND C. HUSSEY, Milford, Mass.—*Cutting Board*.—Patented August 28, 1866; reissued February 26, 1867.

*Claim.*—The sections A and B, constructed of a



series of seasoned strips, firmly glued or cemented to each other, in combination with the clamping device, consisting of rods D, bars C, and nuts *c*, for the purpose described, substantially as specified.

**2,497.**—JOHN P. JAMISON, New York, N. Y.—*Crimping Machine*.—Patented May 15, 1866; reissued February 26, 1867.

*Claim.*—First, in combination with a crimping form or block G, jaws or stretchers F carried by springs D or E, so as to form thereof elastic jaws, and arranged to reciprocate in common with a cross piece C, or its equivalent, substantially as specified.

Second, the springs D and E, the one of which is stationary in its connection with the reciprocating cross piece C, while the other is hung thereto so as to be capable of play, for operation of the jaw or stretcher which it carries, by the action of an inclined plane H, or its equivalent, essentially as and for the purpose herein set forth.

**2,498.**—LA FAYETTE LOUIS, Providence, R. I.—*Melodeon*.—Patented November 18, 1856; reissued February 26, 1867.

*Claim.*—In combination with the reeds of a melodeon, or that class of instruments in which the air is drawn through the reeds by the exhaust action of a bellows, a tremolo valve or valves, so arranged that when vibrated it or they shall interrupt the passage of air through the reeds, and thereby produce the tremolo sound at the will of the performer.

**2,499.**—WILLIAM N. WHITELY, JEROME FASSELLER, and OLIVER S. KELLEY, Springfield, Ohio.—*Cider Mill*.—Patented December 15, 1863; reissued February 26, 1867.

*Claim.*—First, a mill for grinding fruit when constructed with two grinding rollers H H', placed beneath a crushing and feeding roller M, which crushes the fruit against a serrated breast plate and feeds the same to the grinding rollers by which it is reduced to a pulp, substantially as described.

Second, the rollers H H' M, in combination with the metal segments K K' constructed as described, and one of them provided with the scraping edge Y, substantially as and for the purpose set forth.

Third, the spiral ribbed grinding rollers, running together at different velocities, with the ribs of one roller crossing the ribs of the other at an angle where the grinding is effected, in combination with the crushing and feeding roller arranged above them.

Fourth, the hopper Q, serrated breast piece or ribbed segment N, segments K K', and sides L L, with the roller M forming the crushing box, constructed so as to be readily removed from the grinding rollers and grinding frame as described, for cleaning or repairing the mill.

Fifth, the combination of the crushing roller M, breast plate N, stationary scraper Y, grinding rollers H H', and scrapers J<sup>2</sup> J<sup>2</sup>, when constructed and arranged for joint operation, substantially as shown and described.

**2,500.**—EDGAR HUSON, Ithaca, N. Y.—*Wagon*.—Patented February 17, 1857; reissued March 5, 1867.

*Claim.*—First, as my invention the use of two or more side splinter bars, when they extend from any convenient point at or near the forward ends of the side springs to the head block; and the use of the said splinter bars whether attached directly to the forward ends of the said side springs, or by any convenient means intervening between them, as described.

Second, fastening the pole or thills to the side splinter bars, or other convenient part of the platform or frame at or near or in rear of the ends of the side springs, as described.

Third, so making the frame or platform as to leave the extremities of it open so as to receive the pole or thills between and back of the forward ends of the side springs, thus bringing the team or horse nearer the wagon, thereby lessening the draft and requiring less room in which to turn.

**2,501.**—THE NEW YORK QUARTZ COMPANY, New York, N. Y., assignees by mesne assignments of GEORGE E. VAN DERBURGH.—*Forming Emery Wheels and Grinding and Polishing Surfaces*.—Patented January 7, 1862; reissued March 5, 1867.

*Claim.*—First, the combination of the particles of emery or other gritty or cutting materials into an artificial stone or substance for grinding, polishing, or other purposes by the vitrification or partial vitrification of any suitable vitrescent flux previously intermingled with said particles, all substantially in the manner herein set forth.

Second, the combination of sand or particles of emery, ground glass, or any other suitable gritty or cutting particles with an alkaline silicate or other vitrescent flux for the purpose of producing an artificial grinding and polishing stone, by the vitrification of said flux under the influence of heat, substantially in the manner herein set forth.

Third, also curing and hardening a plastic combination of gritty particles with a vitrescent flux by first subjecting the same to a moderate heat until dry and afterwards to the action of a higher temperature until a partial or entire vitrification of the flux is produced, substantially in the manner herein set forth.

**2,502.**—EDWARD A. HILL, Chicago, Ill.—*Galvanic Battery*.—Patented August 18, 1863; antedated April 9, 1862; reissued March 12, 1867.

*Claim.*—The combination and arrangement of the battery cup, and the positive and negative electrodes, as and for the purposes specified.

**2,503.**—NATHANIEL S. SHALER, Cambridge, Mass.—*Preserving Fruit, Meat, and other Substances*.—Patented October 11, 1864; reissued March 12, 1867.

*Claim.*—First, the preservation of animal, vegetable, or other matter liable to decay in the ordinary atmospheric air and temperature by means of carbonic acid gas and a refrigerating temperature together and relatively to such substances, substantially in manner as hereinbefore set forth.

Second, the combination of a preserving chamber *a*, a moisture refrigerating apparatus, and a means of circulating the carbonic acid gas of such chamber through or so in contact with the surfaces of the refrigerating apparatus as to not only cool the gas, but cause such moisture to be frozen or condensed and abstracted from the gas, substantially as specified.

Third, the preservatory as constructed of one or more dumb waiters or elevators D, or the equivalent thereof, the gas chamber A, the gas refrigerating apparatus E, and the gas-circulating apparatus, the whole being arranged and combined substantially as and so to operate in manner and for the purpose specified.

Fourth, carbonic acid gas, as a means of preventing or arresting decay in animal or vegetable matter when proper buildings or compartments are filled with such gas to the exclusion of atmospheric air, and the substances to be preserved are placed and kept therein for this purpose.

**2,504.**—THE AMERICAN SUBMARINE TUNNEL COMPANY, New York, N. Y., assignees of JOSEPH R. MILLER.—*Submarine Tunnel*.—Patented August 2, 1853; reissued March 12, 1867.

*Claim.*—The construction, arrangement, and formation of submarine subterranean avenues, by means of cast iron sections united together by flanges and bolts, in the manner and for the purpose herein described.

**2,505.**—KILIAN EGGER, South Cortland, N. Y.—*Extracting Cream from Whey*.—Patented September 25, 1866; reissued March 12, 1867.

*Claim.*—The process above described for extracting the cream from the whey, substantially as specified.

**2,506.**—GEORGE W. FRANCES and W. L. WOODS, Washington, D. C., assignors to W. L. WOODS.—*Tobacco Pipe*.—Patented April 11, 1865; reissued March 12, 1867.

*Claim.*—First, a tobacco pipe, having an inverted bowl, with the stem or vent at the top, and the opening at the bottom, substantially as and for the uses and purposes as above described.

Second, the inverted conical bowl B, combined with the cap C, with its air holes E, substantially as described, Fig. 5.

Third, the conical bowl B, combined with the case A, substantially as described, Fig. 2.



Fourth, the bowl B, solid or in sections, combined with the cap C, and the vent D, substantially as and for the uses and purposes above described.

**2,507.**—AMOR SMITH, Cincinnati, Ohio.—*Preparing Animal Matter for Use as a Fertilizer.*—Patented January 1, 1867; reissued March 12, 1867.

*Claim.*—The hereinbefore described process for preserving the perishable parts of animal matter, consisting of the fleshy portions alone, or mixed soft and hard parts, from decomposition by subjecting the same to pressure after being boiled, substantially as and for the purpose set forth.

**2,508.**—WILLIAM and WILLIAM H. TERWILLIGER, and JOHN S. LOCKWOOD, New York, N. Y.—*Construction of Burglar Proof Safes and Preparation of Materials for the same.*—Patented July 24, 1866; reissued March 12, 1867.

*Claim.*—First, the alternating of iron and steel, welded together in plates or bars, in making the lining, case, or shell of burglar-proof safes.

Second, the process of welding iron and steel plates by the use of a solution of borax and saltpeter, (or their chemical equivalents for welding purposes,) in paint form, laid on the surfaces to be united, by being then heated to the proper heat, say 1,500° Fahr., or thereabout, and rolled under great pressure or hammered till chemically united or welded.

Third, the alternating of iron and steel plates or bars, united or welded by the use of the welding composition, applied as above described, to make better and cheaper materials than those now used for burglar-proof safes.

**2,509.**—WILMON W. BLACKMAR, Boston, Mass., assignee by mesue assignments of D. H. CHAMBERLAIN.—*Lamp.*—Patented May 8, 1855; reissued March 19, 1867.

*Claim.*—First, the combination of a perforated wick tube or chamber B with the body C of a lamp filled with a porous or absorbing material, for the purposes set forth.

Second, an oil can, constructed in the manner and for the purposes set forth.

**2,510.**—HUGH W. COLLENDER, New York, N. Y.—*Billiard Table Cushion.*—Patented December 8, 1857; reissued August 23, 1859; and again reissued March 19, 1867.

*Claim.*—Billiard table cushions composed of vulcanized india-rubber, or allied gum, with a layer rendered less compressible than the body or back by the incorporation of fibrous or equivalent substances, the said layer and back or body having been united in the green or plastic state and together vulcanized, as and for the purpose specified.

**2,511.**—HUGH W. COLLENDER, New York, N. Y.—*Cushion for Billiard Tables.*—Patented January 12, 1858; reissued March 19, 1867.

*Claim.*—Uniting the parts employed in forming combination billiard cushions by placing the harder or more dense and less elastic substances in a mold, and allowing the melted rubber to flow against, around, or into the harder or more dense and less elastic substances, or causing the plastic rubber by pressure to unite with the same, and then vulcanizing the india-rubber, substantially as and for the purpose set forth.

**2,512.**—HUGH W. COLLENDER and MICHAEL PHELAN, New York, N. Y., assignees of HUGH W. COLLENDER.—*Cushion for Billiard Tables.*—Patented September 25, 1860; reissued March 19, 1867.

*Claim.*—Making cushions for billiard tables of two thicknesses of what is known as the soft compound of vulcanized india-rubber, or allied gum, with an interposed thickness of what is known as the hard compound of vulcanized india-rubber, or allied gum, or, as the equivalent thereof, with an interposed thickness of the soft compound of vulcanized india-rubber, or allied gum, rendered hard by the admixture of fibrous or equivalent substances, substantially as and for the purpose specified.

**2,513.**—RANSOM COOK, Saratoga Springs, N. Y.—*Auger.*—Patented June 17, 1851; extended June 17, 1865; reissued March 19, 1867.

*Claim.*—First, constructing boring implements with their lips or cutting edges as shown and described—that is, such lips commencing at the screw or point, and extending therefrom nearly at right angles until about half way from the center to the outer point, then curving upwards and forward, said curve being continued until the outer portion of the lip is nearly semicircular, or until it turns within the periphery of the tool.

Second, a boring implement, having its lips so formed as their cutting edges shall form a spiral line from the point where they begin to curve to their outer extremity, whether the curved edge shall incline forward or backward, substantially as shown and described.

Third, a boring implement, having its lips or cutting edges curved both in the horizontal and vertical planes, substantially as herein shown and described.

**2,514.**—ROBERT N. EAGLE, Washington, D. C.—*Fetter and Hopple.*—Patented April 7, 1863; reissued March 19, 1867.

*Claim.*—First, the devices, substantially as described, for connecting the legs of an animal by a coupling whose mode of junction with the leg bands relieves the said leg bands of motion upon the leg, wholly or in part.

Second, a bar or strap B, or its equivalent, as a means of connecting the coupling C with the portion A, embracing the leg substantially as described and represented.

**2,515.**—HORACE W. PEASLEE, Malden Bridge, N. Y.—*Machine for Washing Paper Stock.*—Patented January 23, 1855; antedated September 20, 1854; reissued January 8, 1856; and again reissued March 19, 1867.

*Claim.*—A rotating pervious cylinder, provided with projecting teeth on the inside, and mounted, substantially as herein described, so as to be sustained and rotated without a shaft and arms, that the inside and ends may be unobstructed for the passage of the stock, substantially as and for the purpose described.

Also, in combination with a pervious rotating cylinder, armed with teeth on the inside, substantially as described, the means, substantially as described, for the introduction of water through the meshes of the cylinder to the stock inside, as and for the purpose described.

**2,516.**—EMMETT QUINN, Washington, D. C.—*Steam Gauge.*—Patented March 19, 1866; reissued March 19, 1867.

*Claim.*—First, the construction of a compound syphon steam gauge, so that the movements of the fluids in each tube are therein confined and prevented from entering and mingling with those in the others during transportation, substantially as herein set forth.

Second, the combination with the gauge of an index tube of a less caliber than the other tubes in said gauge, substantially as herein described.

**2,517.**—JOHN G. CLARK, Middletown, Ohio.—*Machine for Planting.*—Patented October 2, 1865; reissued March 19, 1867.

*Claim.*—First, the toothed cylinder B, in combination with a toothed reciprocating slide or slides, constructed, arranged, and operating substantially as described.

Second, the arrangement of the agitator in the hopper C above the toothed cylinder, operated by mechanism substantially as described.

Third, the combination of actuating gearing with the perforated slide b, arranged to operate at the bottom of the hopper, conjointly with the cylinder B, to regulate the discharge of the seeds, substantially as specified.

Fourth, the stationary teeth, arranged tangentially in relation to the cylinder and ribs e e, in combination with the positively operating devices for separating the seeds, substantially as described.

**2,518.**—P. JEWELL & SONS, Hartford, Conn., assignees of PETER E. HUMMEL.—*Machine for Scouring Leather.*—Patented June 16, 1857; reissued March 19, 1867.

*Claim.*—First, in the leather-scouring machine a



reciprocating tool stock, operated by a connecting arm C, crank D, or their equivalents, to actuate the tools, arranged therein successively upon the surface of the leather presented to their action.

Second, in a leather-scouring machine, a movable bed or table upon which the leather is placed, and held by atmospheric pressure, for presenting said leather to the action of reciprocating tools.

Third, in a leather-scouring machine, suspending the mechanism upon which the tool stock reciprocates to trusses or timbers directly over the movable bed or table, so as to produce firmness and unobstructed access to the bed or table from all sides thereof.

Fourth, in a leather-scouring machine, an automatic reciprocating tool stock, in combination with a horizontal movable bed or table for presenting the leather to the action of said tool stock.

Fifth, in a leather-scouring machine, a slitted lever D, or its equivalent, in combination with the connecting rod C and reciprocating tool stock, to allow the back and forward movement of the said tool stock to be extended or contracted more or less, as desired.

Sixth, in a reciprocating head of a leather-scouring machine, so arranging the tools therein as to be adjusted, vibrate, counterpoise, and graduate their action, for the purpose described, as may be desirable.

Seventh, the bearings *e*, arranged in the tool stock to impart yielding property to the vibrating tool stock, for the purpose described.

**2,519.**—B. H. McNULTY, Philadelphia, Pa., WM. KERN, Mansfield, Ohio, and STERLING BONSALE, Philadelphia, Pa., assignee of McNULTY and KERN.—*Apparatus for Tanning*.—Patented May 23, 1865; reissued March 19, 1867.

*Claim.*—First, hanging the hides in a vat, and agitating the tanning liquor by means of a rotary dasher or agitator, substantially as and for the purpose described.

Second, hanging the hides in a close water-tight vat, and agitating the tanning liquor by means of a rotary or otherwise moving dasher while the liquor is under pressure within said closed vat, substantially as described.

Third, the combination of the water-tight vat A, the dasher E, and a force pump or other equivalent means of producing pressure within the vat, substantially as described.

Fourth, the dasher E, located in the lower part of the vat, in combination with the bars B, or other equivalent means for hanging the hides in the vat, so that the tanning liquor when agitated by the dasher will freely permeate between the hides, substantially as described.

**2,520.**—IRA MERRITT, Abington, Mass., assignee by mesne assignments to himself.—*Knife*.—Patented January 7, 1859; reissued March 19, 1867.

*Claim.*—The knife handle herein described, provided with means for clamping the blade, and for allowing the cutting edge or point to be adjusted with respect to the handle, substantially as set forth.

Also, adjustable blades, so made as to be fixed and held in different positions in the handle, substantially as set forth.

**2,521.**—JOHN C. RHODES, South Abington, Mass.—*Machine for Capping Tacks*.—Patented July 10, 1866; reissued March 19, 1867.

*Claim.*—First, the rotating frame A, having movable plungers D, provided with spiral or other suitable springs, and stationary dies C, in combination with one or more stationary cams G, when all arranged together so as to operate substantially as and for the purpose described.

Second, the combination with the dies C of the clearers or discharges *g*, stud *i*, and spring *h*, substantially as and for the purpose specified.

**2,522.**—ADAM R. REESE, Phillipsburg, N. J., assignee of SAMUEL COMFORT, Jr., Morrisville, Pa.—*Harvester*.—Patented April 1, 1856; reissued March 19, 1867.

*Claim.*—First, in combination with a harvesting machine, a platform to support the falling grain, made of slats, supported at one end only.

Second, a platform composed of slats supported at

one end only, arranged to drop the gavel when a sufficient amount has accumulated thereon to form a sheaf.

Third, in combination with a harvesting machine, a platform which is automatically operated to discharge the grain at one side, and out of the way of the machine on the next round.

Fourth, in combination with a harvesting machine, a platform to receive the cut grain, so arranged as to swing around and drop the gavel at one side out of the way of the team and the machine on the next round.

Fifth, in combination with the slatted platform, a device for receiving the cut and falling grain, while the gavel is being discharged.

Sixth, in combination with a slatted platform, a device automatically operated for supporting the falling grain while the gavel is being discharged.

Seventh, in combination with a platform made of slats, supported at one end only, a device for receiving and supporting the cut and falling grain while the gavel is being discharged.

Eighth, in combination with a slatted platform, a device which is supported at one end only for the purpose of forming a support for the cut and falling grain while the gavel is being discharged upon the ground.

**2,523.**—W. H. BURRIDGE, Cleveland, Ohio, for himself and as assignee of J. BRAINARD.—*Obtaining the Extractive Matter of Tan Bark and Other Materials by Displacement*.—Patented April 8, 1862; reissued March 19, 1867.

*Claim.*—First, the process herein described for making extracts and for filtering purposes, which consists in dividing the material from which the extract is made, or which forms the filter, into a series of horizontal layers or divisions, either with or without a perforated diaphragm, and which by suitable mechanical means fresh material may be introduced into the bottom of the column and the exhausted material discharged at the top.

Second, the introduction of water or liquid to be filtered at the top of the column, while the fresh material or filter is introduced at the bottom and discharged at the top, substantially as specified.

Third, obtaining the extractive property of bark by the process herein described.

**2,524.**—JOHN P. COWING, Seneca Falls, N. Y.—*Composition for Roofing*.—Patented February 19, 1867; reissued March 26, 1867.

*Claim.*—The simple compound of ground fire clay rock, or slaty clay and coal tar, as specified.

**2,525.**—LAURENCE A. HEELEY, New York, N. Y., assignee by mesne assignments of FREDERICK W. COX.—*Pen and Pencil Case*.—Patented June 27, 1865; reissued March 26, 1867.

*Claim.*—First, extending the longitudinally moving tube *e* with the revolver *b* to such a length into the case A that the traveler can be made to move back, below, or within the outer end of the tube *e*, as set forth, whereby a pencil case is obtained, the tip of which can be moved in and out, and which is capable of carrying long leads.

Second, the circular groove *s* in the revolver *b*, in combination with the pin *j*, substantially as herein set forth, so that sufficient hold for the said pin is obtained without the necessity of a cap over the tube *e*, and at the same time the revolver is prevented from moving in a longitudinal direction.

Third, the collar *o*, in combination with the tube *f* and shell *h*, substantially as and for the purpose specified.

Fourth, the reserve lead chamber *p*, extending partially or wholly round the revolver *b*, when the same is made with or without a longitudinal motion when said chamber is situated within the shell A, substantially as and for the purpose shown and described.

**2,526.**—ALEXANDER M. DAMON, Lowell, Mass.—*Warp Dressing Frame*.—Patented October 9, 1866; reissued March 26, 1867.

*Claim.*—The combination or mechanism of operating one or more raddles in manner as set forth, such consisting of the slotted bar P, the gear G, the pins *g p*, and mechanism for revolving the said gear, the said bar P being constructed and the whole being arranged together, and with the raddle or raddles, sub-



substantially as and so as to operate as hereinbefore explained.

**2,527.**—THE MCKAY HEELING MACHINE COMPANY, Boston, Mass., assignees by mesne assignments of WILLIAM F. EDSON.—*Machine for Cutting and Finishing Shoe Heels.*—Patented September 6, 1859; reissued July 24, 1860, and again reissued March 26, 1867.

*Claim.*—In combination with a cutting, grinding, or polishing device for operating to shape or finish a boot or shoe heel, and where a movement is given to such device or to the heel, relative one to the other, a former or pattern located on the tread of the heel, and operating in connection with a shield against which it abuts, to govern in whole or in part the form of the heel.

Also, in a heel shaping or finishing mechanism, such an arrangement of a shield with reference to the cutting, abrading, or polishing device, and to the counter of a boot or shoe having a heel to be cut, ground, or polished, as will, by the abuttal of the said counter against said shield, govern in whole or in part the form of the heel.

Also, the combination with a heel shaping or with a heel finishing mechanism of a flexible counter protecting band, arranged to operate substantially as described.

**2,528.**—SAMUEL L. HILL, Williamsburg, N. Y., assignor to himself, ALBERT PALMER, and A. SIDNEY DOANE.—*Spelling Block.*—Patented October 12, 1858; reissued March 26, 1867.

*Claim.*—First, placing different letters of the alphabet upon two or more sides of cubical or six-sided blocks, so that by combining the same, words in which the same letters occur more than once may be readily spelled.

Second, placing upon each block its proper numeral for the purpose specified.

**2,529.**—GEORGE H. REAY and LEWIS NEGBAUR, New York, N. Y., assignees by mesne assignments of GEORGE H. REAY.—*Envelope Machine.*—Patented August 25, 1863; reissued March 26, 1867.

*Claim.*—First, the employment of a movable carrier E in combination with the rising and falling lifters F, constructed and operating in the manner and for the purpose substantially as herein specified.

Second, the arrangement of the table C over the conveyer H, substantially in the manner herein described, so that the blanks are held even and in place by the table while being carried by the conveyer to the creasing box.

Third, the slotted lifters F in combination with the bar  $c^*$  in the table C, as and for the purpose herein specified.

Fourth, the arms  $c^{**}$  attached to the table C, or to any other fixed part of the machine, and operating in combination with the conveyer H, substantially as and for the purpose set forth.

Fifth, feeding the blanks under the table or platform which supports the gum box, instead of over it.

Sixth, the weight  $c^2$  in the front edge of the table, in combination with the conveyer H, applied and operating substantially as and for the purpose set forth.

Seventh, the balance weight  $k^{3*}$ , in combination with the conveyer H, applied and operating in the manner and for the purpose herein specified.

Eighth, arranging the fingers K in such relation to the plunger J that they hold the flaps of the envelope, which have been creased by being passed through the box I until the plunger descends again and completes the envelope by pressing it, as set forth.

Ninth, the arrangement of hinge joints  $k^3$  in the shanks of the folding fingers K, in the manner and for the purpose substantially as described.

Tenth, the cam  $m$  and roller  $m^*$ , or its equivalent, in combination with the plunger J, constructed and operating substantially as and for the purpose specified.

Eleventh, passing the plunger J below the lower creasing edge  $i^*$  of the box I, in the manner specified, so as to push the finished envelope clear of the box, and leaving the creased envelope below the lower edge of the box, to prevent the same from going back with the plunger.

Twelfth, the ribs or ledges  $j^4$  on the face of the plunger, as and for the purpose described.

**2,530.**—LOUIS C. RODIER and J. B. GARDINER, Springfield, Mass., assignees of LOUIS C. RODIER.—*Steam Pump.*—Patented August 14, 1866; reissued March 26, 1867.

*Claim.*—First, the arrangement of secondary valves  $d d'$ , ports  $f f$ , and reservoirs L L, at or near each end of the cylinder, operating with the piston B and valve D, to reverse the motion of the piston, in the manner set forth.

Second, the arrangement of the water valves of the pump, consisting of hinge valves hung singly or in pairs upon plugs constructed as described.

Third, constructing the plug through which the water is forced when both valves are attached to it in the manner shown, having a longitudinal and a lateral partition, arranged substantially as set forth.

**2,531.**—THE MCKAY HEELING MACHINE COMPANY, Boston, Mass., assignees by mesne assignments of HERMAN SALOSHINSKY.—*Machine for Attaching and Finishing Boot Heels.*—Patented January 31, 1860; reissued March 26, 1867.

*Claim.*—A machine organized so as to operate to drive or force several nails or pegs simultaneously from the inside of a boot or shoe through its sole into the heel thereof, substantially as described.

Also, the combination in one machine of means for nailing or pegging the heel of a boot or a shoe to the sole thereof, and means for forming the curve line or outline of the heel by causing a relative turning movement between the heel and a cutting edge, substantially as described.

**2,532.**—PORTER L. SWORD, Adrian, Mich., assignee by mesne assignments of himself and GEORGE S. TIFFANY.—*Brick Machine.*—Patented June 14, 1864; reissued March 26, 1867.

*Claim.*—First, adjustably suspending the mold wheel C from the bed plate upon wheels H, upon which it revolves, substantially as set forth.

Second, the combination of the mold wheel C and pug mill A with a bed plate C, having a curved lineal opening under the pug mill and over the molds, substantially as described.

Third, a curved tubular extension  $D^1$  leading from the bottom of the pug mill over the rim of the mold wheel through which the clay is fed to the molds, substantially as set forth.

Fourth, the inclined adjustable press plate E placed in the tubular extension  $D^1$ , in combination with the mold wheel C.

Fifth, the combination of the press plate E, mold wheel C, followers F, and wheel G, substantially as and for the purpose set forth.

Sixth, adjustably suspending the wheel G from the bed plate D by rods  $G^2$ , substantially as and for the purpose set forth.

Seventh, the combination of the mold wheel C, bed plate D, and the adjustable packing rings I and  $I'$  attached thereto, substantially as set forth.

Eighth, the combination of the adjustable press plates and adjustable knife K, having a horizontal blade, substantially as set forth.

**2,533.**—JOHN WATSON, Buffalo, N. Y., assignee by mesne assignments of himself.—*Brick Machine.*—Patented June 5, 1866; reissued March 26, 1867.

*Claim.*—The combination of an internal or grooved cam, as described, with a connecting rod or the equivalent thereof, operating the sliding mold of a brick machine, for the purpose of giving to the said mold the necessary reciprocating motions.

Also, the combination of the pin G with the cam F, to operate the above-mentioned reciprocating motion of mold B, as and for the purposes described.

**2,534.**—HENRY KAYSER, New York, N. Y., assignee of J. MATHIS.—*Roller Temple for Looms.*—Patented April 24, 1866; antedated March 14, 1861; reissued March 26, 1867.

*Claim.*—First, a temple provided with a series of wheels set in an oblique direction, substantially as and for the purpose described.

Second, giving to each of the oblique wheels an independent revolving motion, substantially as and for the purpose set forth.

Third, the eccentric shoulders  $e$  on the disk  $d$ , which separate the oblique wheels  $a$ , substantially as and for the purpose described.



**2,535.**—CHARLES S. BURT, Dunleith, Ill., assignee by mesne assignments of H. H. LOW.—*Shingle Machine*.—Patented March 16, 1858; reissued March 6, 1866; and again reissued April 2, 1867.

*Claim.*—First, a vertically movable counterbalanced bolt gate, in combination with a circular saw D, when so arranged and operating that while the saw is stationary the bolt shall be fed up to it, in the manner and for the purpose above described.

Second, the combination of a vertically-moving and counterbalanced bolt frame G and a head block K, substantially as and for the purpose hereinbefore described.

Third, providing a vertically-moving bolt frame G, head block K, and contrivances for moving said block up to or away from the saw, when arranged and constructed substantially as described.

Fourth, so constructing a machine for sawing straight or tapering slabs from bolts with a circular saw that the table or frame on which the bolts are secured shall be returned by a movement upward or downward, as the case may be, to a position which will admit of the adjustment of the bolt after each cut, substantially as and for the purpose above set forth.

Fifth, the combination of the vertically-movable counterbalanced gate and treadle with the head block K, lever L, pawls M, and racks J, arranged and operating substantially as described.

**2,536.**—ALBA F. SMITH, Norwich, Conn.—*Locomotive Steam Engine*.—Patented April 5, 1864; reissued April 2, 1867.

*Claim.*—First, in locomotives, transmitting motion from the crank shaft A to the driving or bearing wheels R through the medium of the wheels U T of unequal sizes, supported independently of the bearing wheels, and maintained in fixed positions relative to each other and to the main framing of the engine, so as to be unaffected by the inequalities of the road, substantially as and for the purposes herein specified.

Second, the frictional gearing of the wheels U T, or equivalent wheel of unequal size intervening between the engine and the driving wheels of a locomotive, so arranged as to be both out of contact with the rails, substantially as and for the purposes herein specified.

Third, in connection with the above, mounting the bearings of the crank axle A in the same pedestals with the bearings of the driven axle t, substantially as and for the purposes herein set forth.

Fourth, the employment in locomotives of a slight clip or catch Z, arranged relatively to separate hand levers J j, or their equivalents, connected each to the same starting and controlling mechanism, substantially in the manner and for the purpose herein specified.

Fifth, in locomotives, so constructing and arranging the tanks W W' that they are of little width, but greatly extended in longitudinal and vertical dimensions, and are rigidly framed together and to the framing Q Q, or its equivalent, substantially as and for the purposes herein set forth.

Sixth, in locomotives, so constructing and arranging said tanks W W' that they are of little width, but greatly extended in longitudinal and vertical dimensions, and are mounted outside of the working gear, substantially as and for the purposes herein set forth.

**2,537.**—THE UNITED STATES BLASTING OIL COMPANY, New York, N. Y., assignees of A. NOBEL.—*Explosive Compound*.—Patented August 14, 1866; reissued April 2, 1867. (Division A.)

*Claim.*—Nitric or crystallizing nitro-glycerine, produced by the admixture of glycerine, sulphuric acid, and nitric acid free or nearly free from hyponitric acid.

**2,538.**—THE UNITED STATES BLASTING OIL COMPANY, New York, N. Y., assignees of A. NOBEL.—*Producing an Explosive Compound*.—Patented August 14, 1866; reissued April 2, 1867. (Division B.)

*Claim.*—As a new explosive compound, the mode or process, substantially as herein described, of mixing together glycerine, sulphuric acid, and nitric acid, free or nearly free from hyponitric acid, and for the purpose specified.

**2,539.**—HENRY PEMBERTON, Allegheny City, Pa.—*Refining Hydro-carbon Oils and Utilizing Waste Products therefrom*.—Patented August 2, 1859; reissued January 1, 1867; and again reissued April 2, 1867.

*Claim.*—First, recovering the sulphuric acid from the residuum of the process of refining coal oil, petroleum, and other hydro-carbonates by treating the residuum with water, which unites with the acid and replaces and liberates the tarry matter, and then separating the tarry matter from the sulphuric acid and water by subsidence.

Second, agitating water and the residuum of the process of refining coal oil, petroleum, and other hydro-carburets together, for the purpose of expediting the union of the acid and water and the liberation of the tarry matter.

Third, purifying the dilute sulphuric acid recovered from the residuum which results from the refining of coal oils, petroleum, and other hydro-carburets by repeated processes of concentration and dilution with water, whereby the coloring matter is separated, and may be removed substantially as hereinbefore described.

Fourth, the use of sulphuric acid recovered from the residuum resulting from the refining of coal oil, petroleum, and other hydro-carburets, for the decomposition of salt in the production of sulphate of soda, as a step in the manufacture of soda ash.

**2,540.**—A. T. WRIGHT, New Vienna, Ohio.—*Beehive*.—Patented June 16, 1863; reissued April 2, 1867.

*Claim.*—The combination of a series of vertical frames ff with the boards which separate or divide them when the same are clamped together in such a manner as to form a hive with close sides, top, and bottoms, substantially as herein specified.

**2,541.**—B. B. HOTCHKISS, New York, N. Y., assignee of MILTON WHIPPLE.—*Driving Rein Holder*.—Patented September 4, 1866; reissued April 2, 1867.

*Claim.*—The spring device herein described, adapted to operate in holding and releasing the driving reins, substantially in the manner and for the purposes herein specified.

**2,542.**—NORMAN C. STILES, West Meriden, Conn.—*Punching Apparatus*.—Patented January 26, 1864; reissued December 26, 1865; and again reissued April 2, 1867.

*Claim.*—First, the eccentric wrist pin a, and turning part b, or its equivalent, constructed and combined as described, to operate the punch at different levels, substantially as and for the purpose herein set forth.

Second, the V-shaped faces g in the slide E, in combination with the jaws G cast solid, with the stock A, and with the triangular gib h, all constructed and arranged as and for the purpose specified.

Third, the touch-off device k H, arranged in combination with the clutch pin m, substantially as shown and described, so that said clutch pin is thrown in either direction by the direct action of the cam.

Fourth, the loose clutch pin m, applied in combination with the band wheel C, and shaft B, and with the adjustable operating means adapted to move it in and out by a positive motion, in the manner and for the purpose substantially as specified.

Fifth, the button l in the shaft B, in combination with the spring catch k', clutch pin m and n, and cam H, arranged substantially as described, so that the cam is released automatically after the punch or cutter has completed its stroke.

Sixth, the yielding coupling pin n, in combination with the clutch pin m, and touch-off device k H, constructed and operating in the manner and for the purpose substantially as specified.

Seventh, the yielding fulcrum pin j, arranged in combination with the cam H, clutch pin m, and band wheel C, substantially as and for the purposes set forth.

**2,543.**—SAMUEL ADLAM, Jr., Charlestown, Mass., assignee by mesne assignments of JOHN HASELTINE.—*Shoe Pad for Horses' Feet*.—Patented July 25, 1865; reissued April 9, 1867.

*Claim.*—A cushion or protector for horses' feet, made of rubber or rubber compound, and to fit the foot substantially as set forth.



**2,544.**—ALBERT H. GILMAN, Milford, Mass., assignee by mesne assignments of himself.—*Lubricating the Bearings of Spinning Frames.*—Patented January 14, 1864; reissued April 9, 1867.

*Claim.*—A spindle step cap combined or to be connected with the spindle so as to revolve with it and made so as to extend over and embrace or go around the spindle step, and so applied to the spindle as to be capable of being moved lengthwise thereon, and fastened in place thereon by a clamp screw, or its equivalent, the whole being substantially as and for the purpose or purposes as explained.

Also, a spindle gear made so as to be movable lengthwise on its spindle and provided with a screw, or its equivalent, to fasten it in place thereon, and so constructed that the gear itself shall form a cap for and pass down over or around the step without being in contact with it, substantially in the manner and for the purpose shown and specified.

Also, the combination and arrangement of the groove *v*, with the step *a*, and with the cap *G*, made so as to extend over and embrace or go around the said step, as specified.

**2,545.**—ROBERT CORNELIUS, Philadelphia, Pa.—*Pump for Deep Wells.*—Patented March 13, 1866; reissued April 9, 1867.

*Claim.*—Forming an annular chamber around the body of the pump at the top of the stroke and connecting this chamber by a series of openings with the interior of the pump chamber in such a manner that when the piston rises above the openings, the liquid from above will flow into the body of the pump and displace the gas, substantially as described.

**2,546.**—ANTON SCHWITTER, New York, N. Y.—*Ornamenting Articles of Glass or other Vitreous Materials.*—Patented September 27, 1864; reissued April 9, 1867.

*Claim.*—First, giving to the tool or cutter used in ornamenting articles of glass or other vitreous material, a motion toward and from the work by hand at the will of the operator, while the work is secured to a movable spindle or carriage, in contradistinction to the ordinary process of cutting glass, in which the work is held in the hands of the operator and pressed against the cutter, which revolves in stationary bearings, substantially in the manner and for the purpose set forth.

Second, the use of the rotary tool in combination with the spindle of an ordinary rose engine, or engineering machine, either with a circular or with an up and down motion, substantially as and for the purpose described.

Third, the adjustable head *d*, and swivel head *g*, in combination with the extension spindle *I*, carrying the tool *H*, all constructed and operating substantially as and for the purpose set forth.

Fourth, the slotted plate *J*, carrying the bearing for the tool spindle *I*, and arranged in combination with the slotted table *A*, in the manner and for the purpose substantially as described.

Fifth, the swinging shaft *C*, arranged in combination with the adjustable tool spindle *I*, in the manner and for the purpose substantially as set forth.

**2,547.**—THE BAILEY WASHING AND WRINGING MACHINE COMPANY, Woonsocket, R. I., assignees by mesne assignments of S. A. BAILEY.—*Wringing Machine Roller.*—Patented April 29, 1862; reissued April 9, 1867.

*Claim.*—In elastic cylinders of wringing machines the shaft *A*, in combination with the rods, ribs, or bars *C*, substantially as and for the purpose set forth.

**2,548.**—G. N. BEARD, St. Louis, Mo.—*Tie for Cotton Bales.*—Patented July 16, 1861; reissued April 9, 1867.

*Claim.*—First, the shape and proportion of the cleat device *A*, with respect to the loop holes *B*, substantially as herein set forth.

Second, the fixed combination of a double-hooked cleat having prongs or engaging points of unequal length, with one end of a metallic band having an elongated aperture in its other end, when the length of said aperture is less than the united diameter of the shank of said cleat and length of its longer prong, all substantially in the manner and for the purpose herein set forth.

**2,549.**—JOHN R. GROUT, Detroit, Mich.—*Reverberating and other Metallurgic Furnaces.*—Patented July 24, 1866; reissued April 9, 1867.

*Claim.*—First, in a reverberatory or other furnace for treating metals having a bridge wall, or its equivalent, and a combustion or melting chamber, the atmospheric passage way *a a' a''* through the bridge wall so constructed that a thin and broad current or currents of atmospheric air heated in passing through the wall shall be discharged at or near the top of the bridge wall and in rear of the same diagonally across the course of the currents of the gaseous products of combustion on entering the combustion or melting chamber after passing from the fire room.

Second, in such a furnace the atmospheric passage-way *b b' b''* through the arch over the fire room and bridge wall so constructed that a broad and thin current or currents of atmospheric air, heated in passing through the wall, shall be discharged at a line over or nearly over the rear side of the bridge wall downwardly and diagonally across the course of the current of the gaseous products of combustion on entering the combustion or melting chamber after passing from the fire room.

Third, in such a furnace the combination of an atmospheric air passage way constructed through the bridge wall with a similar passage-way through the arch over the same, said passage-ways being respectively constructed substantially as described.

Fourth, the passage-ways *a a' a''*, or *b b' b''*, when constructed respectively in the bridge wall and arch, and subdivided in such manner as to discharge the hot air as set forth, through two or more orifices with narrow openings, the series extending across, or nearly across, the entire width of the passage over the bridge wall.

Fifth, the atmospheric passage-ways *a a' a''*, and *b b' b''*, constructed so that the air will be heated in passing through the furnace walls when so arranged with valves or other throttles that the flow of air through them may be regulated at discretion, substantially as set forth.

Sixth, the bridge *c* across the bridge wall above the valve for the protection of the same, substantially as described.

Seventh, so constructing such a furnace that the heat absorbed by the furnace walls may be taken up by currents of air passing through passage-ways constructed in the furnace walls, which air flowing through them is afterward discharged into and mingled with the gaseous products of combustion after the same have risen from the fuel upon the grates and passed out of the fire room, substantially as described.

**2,550.**—ALFRED B. ELY, Newton, Mass., assignee by mesne assignments of LUTHER HALL.—*Pegging Machine.*—Patented March 8, 1864; reissued April 9, 1867.

*Claim.*—First, so constructing the awl as to use it as a peg driver.

Second, interrupting the motion of the awl and employing it as a driver on each alternate downward stroke.

Third, interrupting the upward motion of the driver on every alternate ascent to prevent the feeding of the peg strip until the hole is made to receive the peg.

Fourth, the boss *I* in combination with the block *G* and switch *d*, or their equivalents, substantially as and for the purpose set forth.

**2,551.**—A. C. KASSON, Milwaukee, Wis., and N. C. GRIDLEY, St. Louis, Mo., assignees of A. C. KASSON.—*Auger.*—Patented January 15, 1867; reissued April 9, 1867.

*Claim.*—First, an auger having a twist whose front or working faces are concave, and whose rear surfaces are convex, substantially as represented in Fig. 2.

Second, an auger constructed substantially as herein shown and described, which permits the formation of cutting lips at any point in its length by simply cutting off the twist at any given point in a plane coincident or nearly so with the axis of the auger, and sharpening its edges.

Third, in an auger constructed as described the cutting lips *B* formed with sharpened edges following the concavity of the twist from the screw or center



point to the periphery, and inclined to the axis of the auger, substantially as shown and described.

Fourth, the combination of the twist, the cutting lips, and the cutting edges of the twist, substantially as shown and described.

**2,552.**—C. W. THEODORE KRAUSCH, Philadelphia, Pa.—*Increasing Traction in Locomotives.*—Patented January 29, 1867; reissued April 9, 1867.

*Claim.*—First, the means substantially as herein described of increasing adhesion of driving wheels of locomotive engines or other draft carriages upon their rails or upon the ground, consisting in transferring a portion of the weight of the load to be moved to the said draft carriage by the act of starting this carriage, substantially as described.

Second, the employment of steam or other power in conjunction with a coupling lever S, or its equivalent, for the purpose of enabling the engineer to increase or diminish the weight upon the frame of the draft carriage at pleasure, substantially as described.

**2,553.**—EGBERT C. BRADFORD, JAMES H. RENICK, and OBADIAH A. CLOUGH, New York, N. Y., assignees of HENRY MARTIN.—*Brick Machine.*—Patented June 27, 1865; reissued April 9, 1867.

*Claim.*—First, the mixing box A and press box C with its grate c c, in combination substantially as described with each other and with the gate j, operating to close the press box against any admission of clay while the molds are being filled, as set forth.

Second, the manner of regulating the rise and fall of the plunger h by means of the adjustable tapering slide or gauge i<sup>1</sup> on the slotted lever i<sup>2</sup> in combination with the pins i<sup>3</sup> on the toothed segment or wheel i, substantially as set forth.

Third, the manner of working the plunger d in the press box c by means of the crank F, with its wrist, the slotted lever i<sup>2</sup>, with its adjustable tapering slide or gauge i<sup>1</sup>, the toothed segment or wheel i, with its pins i<sup>3</sup>, and the rack h attached to the plunger, all combined and operating substantially as and for the purpose specified.

Fourth, the cog wheel l and slotted lever i<sup>2</sup> operated by the wrist of the crank F, in combination with the rack k attached to the gate j, substantially as and for the purpose set forth.

Fifth, the devices for operating the molds under the press box c, consisting of the lever P, rock shaft e, arms F, connecting links g, and pusher E, all combined and operating substantially as and for the purpose specified.

Sixth, the gate m raised and lowered by the lever n, or its equivalent, in combination with the press box c, for the purpose described.

**2,554.**—JOSEPH W. BRANCH and JOS. CROOKES, St. Louis, Mo., assignees of JOHN F. MILLIGAN.—*Cotton-bale Tie.*—Patented November 6, 1866; reissued April 9, 1867.

*Claim.*—First, the application of the buckle B for the joining of the ends A and A' of a loop or band, when the said ends, or either of them, are passed through a mortise c of said buckle, without cutting or otherwise weakening the ends or end so passed, and when the parts thus joined are held by the expansive forces of the compressed bale, substantially as herein fully set forth.

Second, the buckle or tie plate B, provided with a projection b, when combined with an oblique slot c to receive and secure the ends of the bale loop, substantially as and for the purpose herein set forth.

**2,555.**—J. H. MILTIMORE, Chicago, Ill.—*Lantern.*—Patented August 8, 1865; reissued April 9, 1867.

*Claim.*—First, the upper portion of the base B, when so constructed as to admit of the passage of an adjustable globe through it and made a part of the guard, and also, connected with the lower or flanged portion by a hinge and spring, substantially as shown.

Second, the combination of the lower portion of the base B, which supports the lamp, with the upper vertical portion which forms a part of the guard in a lantern, having the globe removable through such upper portion of the base, substantially as specified.

Third, the disk or ring D provided with the lugs e, in combination with the projections o of the base B, arranged and operating as and for the purposes set forth.

Fourth, the band F provided with the inclines l, in combination with the rod u, substantially as and for the purposes set forth.

Fifth, securing the lamp by means of the bar or strip f and arms g, when arranged to operate substantially as described.

**2,556.**—JAMES PURINTON, Jr., Lynn, Mass.—*Finishing Soles of Boots and Shoes.*—Patented January 26, 1864; reissued April 9, 1867.

*Claim.*—As a new article of manufacture, a boot or shoe, having a finish imparted to the heel or sole by covering the outer surface of the same, in whole or in part, by paper or other material, substantially as set forth.

**2,557.**—A. B. ELY, Newton, Mass., assignee by mesne assignments of SUMNER SARGENT.—*Lantern.*—Patented September 17, 1861; reissued January 23, 1866; and again reissued April 9, 1867.

*Claim.*—First, constructing the lantern with an aperture or opening in the case through which the wick regulator extends so as to be reached and operated on the outside, when used in combination with such wick regulator, substantially as described.

Second, in combination with the above, an opening and closing plate, or its equivalent, for covering or uncovering the opening in the case, substantially as described.

Third, the arrangement of the perforations i i in the base flange of the lamp, the draught collector u, and guard cylinder R, or any two of them in combination, substantially as and for the purposes described.

**2,558.**—D. N. B. COFFIN, Jr., and IRAH D. SPAULDING, Boston, Mass., assignees of D. N. B. COFFIN, Jr.—*Power Capstan.*—Patented November 21, 1865; reissued April 16, 1867. (Division 1.)

*Claim.*—First, the conical or taper gears h g f e and the angular shafts j, in combination with the barrel of a capstan, substantially as described.

Second, connecting the fulcrum gear e to the bed plate automatically by furnishing each with a series of inclined faced lugs, substantially as described.

Third, duplicating the inclined faces of the lugs i on the fulcrum gear and the bed plate in reverse order, so as to operate both ways.

**2,559.**—D. N. B. COFFIN, Jr., and IRAH D. SPAULDING, Boston, Mass., assignees of D. N. B. COFFIN, Jr.—*Power Capstan.*—Patented November 21, 1865; reissued April 16, 1867. (Division 2.)

*Claim.*—First, the inclined or wedge-shaped lifter g, made movable separately from the parts to be locked together, in combination with the sliding bolts of a capstan, substantially as described.

Second, the arrangement of one or more series of inclined or wedge-shaped lifters upon a ring or circular connection p, so as to operate simultaneously on several bolts in the locking mechanism of a capstan, substantially as described.

Third, casting the lower journal part of the spindle or shaft of a capstan on and as a part of the bed plate.

Fourth, casting the lower journal part of the spindle or shaft of a capstan hollow, in combination with its formation on and as a part of the bed plate, irrespective of the construction of the upper portion.

Fifth, compounding the spindle or shaft of a capstan by forming the lower journal part on and as part of the bed plate and inserting the comparatively lighter wrought part to form the upper portion, substantially as described.

**2,560.**—OLIVER P. MACGILL and T. POULTNEY, Brooklandville, Md., assignees of OLIVER P. MACGILL.—*Horseshoe.*—Patented April 11, 1865; reissued April 16, 1867.

*Claim.*—A false or supplemental shoe, provided with ice calks, and so constructed that it may be clamped to or confined upon the shoe of the horse by means of gripping flanges and a clamping screw without the necessity of any screws, keys, or other devices entering the stock or metal of the shoe on the horse's foot.

Also, making the supplemental shoe in two parts hinged together, in combination with the flanges D D, or their equivalents, and the tightening screw, in order that the said shoe may be clamped only to the



inner edges or portions of the shoe of the horse, substantially as described.

Also, making the ice calks J removable and constructed and combined with the false shoe, in the manner described, for the purposes set forth.

**2,561.**—WINFIELD S. SIMS, Newark, N. J.—*Tobacco Pouch*.—Patented February 26, 1867; reissued April 16, 1867.

*Claim.*—First, the tobacco pouch A, formed with two openings, one for the reception of the nozzle and the other for the reception of the rod or rammer, as described.

Second, the combination of the pouch A with the nozzle B.

Third, the combination of the pouch A, nozzle B, and rod E, substantially as and for the purpose described.

**2,562.**—THEODORE R. TIMBY, Saratoga Springs, N. Y.—*Hoe*.—Patented March 5, 1867; reissued April 16, 1867. (Division A.)

*Claim.*—The hoe with its peculiar angular edge, as described.

**2,563.**—THEODORE R. TIMBY, Saratoga Springs, N. Y.—*Handle for Implements*.—Patented March 5, 1867; reissued April 16, 1867. (Division B.)

*Claim.*—A metallic lapped thimble or ferrule for handles of agricultural implements and other useful articles.

**2,564.**—THE BRIDGEPORT BRASS COMPANY, Bridgeport, Conn., assignees of HENRY TODD.—*Machine for Grinding Sheet Metals*.—Patented March 5, 1867; reissued April 16, 1867.

*Claim.*—First, the combination of the trough B, provided with strips or corrugations *b* and presser C, constructed substantially in the manner described, so as to scour the surface of sheet metal drawn there-through.

Second, the combination of the trough B, provided with strips or corrugations *b*, and presser C provided with strips or corrugations *c*, with the mechanism constructed and arranged so as to draw the sheet between the scouring surface of the trough and presser, substantially as specified.

Third, in combination with the trough B and presser C, the removable sleeve G and reversely-rotating shafts E and F, essentially as and for the purposes herein set forth.

**2,565.**—THE WATER-PROOF SOLE COMPANY, New Haven, Conn., assignees by mesne assignments of JOHN W. COBURN.—*Water-proof Sole*.—Patented June 27, 1865; reissued April 16, 1867.

*Claim.*—First, a compound sole presenting a surface of rubber or analogous gum, or its compounds, over the main portion of the sole and a border of leather, the gum having been applied to the leather while soft and vulcanized thereon, substantially as and for the purposes herein specified.

Second, in combination with the above, causing the vulcanized material to extend through from one face of the sole to another, through a hole provided for the purpose in the leather, substantially in the manner and for the purpose herein specified.

Third, in compound soles, having rubber vulcanized with leather, as specified, the protrusion of the rubber face outside of and beyond the face of the leather edging, substantially as represented in Fig. 4, and for the purpose herein specified.

Fourth, in compound soles of rubber and leather, covering the surface in whole or in part with thin rubber cloth, or analogous strong fibrous material, attached so as to serve in connection with the rubber and leather, substantially in the manner and for the purposes herein set forth.

**2,566.**—SAMUEL MOSS, San Francisco, Cal., assignee of GILBERT M. COLE.—*Operating Railroad Pumps*.—Patented December 16, 1867; reissued April 16, 1867.

*Claim.*—First, conducting by means of connecting pipes the steam generated in the locomotive boiler to a stationary engine by the roadside, to operate the same as and for the purpose set forth.

Second, the combination of a stationary engine and

pump, the connecting pipes *c c'*, and a locomotive boiler, as and for the purpose described.

**2,567.**—ALFRED B. ELY, Newton, Mass., assignee of REUBEN W. DREW.—*Sewing Machine*.—Patented June 30, 1863; reissued April 16, 1867.

*Claim.*—The application of heat by or through the flame of a lamp, gas burner, or their equivalent, to the metallic arm of a waxed thread sewing machine, in or along which the thread may pass, for the purpose of warming the thread and making it pliable, substantially as described.

**2,568.**—M. B. STAFFORD, New York, N. Y.—*Window Sash Fastening*.—Patented January 27, 1863; reissued April 16, 1867.

*Claim.*—First, the combination in the window fastener of the fastening bar B and recessed ledge *f*, substantially as herein shown and described.

Second, the combination in the window fastener of the recessed ledge *f* with a ledge *i* and fastening bar B, substantially as herein shown and described.

Third, the employment in the window fastener of the divided fastening bar, constructed substantially as herein shown and described.

**2,569.**—GEORGE THOMPSON, East Tarentum, Pa.—*Manufacture of Caustic Alkali*.—Patented October 21, 1856; reissued February 1, 1859; and again reissued April 16, 1867. (Division A.)

*Claim.*—As a new article of manufacture caustic alkali, enclosed in an integument or casing of anti-corrosive, impervious fabric, substantially as above described.

**2,570.**—GEORGE THOMPSON, East Tarentum, Pa.—*Putting up Caustic Alkali*.—Patented October 21, 1856; reissued February 1, 1859; and again reissued April 16, 1867. (Division B.)

*Claim.*—The process of putting up caustic alkali in metallic casing or integument by pouring the molten caustic alkali into the casing, substantially as above described, and then closing up the top of the case.

**2,571.**—GEORGE THOMPSON, East Tarentum, Pa.—*Manufacture of Caustic Alkalies*.—Patented October 21, 1856; reissued February 1, 1859; and again reissued April 16, 1867. (Division C.)

*Claim.*—The caustic alkali, incased or enveloped in a tight metallic integument or metallic casing, substantially as above described.

**2,572.**—JOHN RADDIN LYNN and GEORGE W. CHIPMAN, Boston, Mass., assignees of JOHN RADDIN.—*Carriage Wheel*.—Patented June 13, 1865; reissued April 23, 1867.

*Claim.*—A wheel having combined directly with the spokes thereof elastic cushions or blocks of rubber, so applied to or in the line of the spokes as to receive the strain exerted between the axle and the tire of the wheel, and having also means for relative adjustment of the spokes and cushions.

Also, the specific constructions described and shown in the several spokes represented in Figs. 1, 2, 3, 4, 5, and 6.

**2,573.**—LORENZO B. TUPPER, New York, N. Y., assignee of DANIEL LASHER.—*Grate Bar*.—Patented September 11, 1860; reissued April 23, 1867.

*Claim.*—First, a furnace grate bar having a series of parallelogram openings running crosswise of the bar, substantially as set forth.

Second, a furnace grate bar in which the cross-bars are alternately connected at their ends, substantially as set forth, to strengthen said cross-bars and prevent said scraper dropping in between said bars, as set forth.

Third, a furnace grate bar in which the surface of the longitudinal bar is on the same level as the top of the cross-bars, as set forth, so that said longitudinal bar will aid in supporting the scraper.

Fourth, furnace grate bars in which there are longitudinal air spaces between the bars and parallelogram air spaces transversely of the bars, substantially as set forth.

**2,574.**—MARTIN REED, Rochester, N. Y., assignee of JOHN THOMPSON.—*Machine for Cutting*



**Hoops.**—Patented November 17, 1863; reissued April 23, 1867.

**Claim.**—First, the combination of the irregular-shaped knife D with the automatically-adjusting rest C and adjustable gauge b, as and for the purpose set forth.

Second, the employment of the knife D, constructed with one or more offsets in its cutting edge, as described, and for the purpose set forth.

Third, the combination of the wheel E, the spring pawl d, and clutch f, or their equivalents, with the rest C, as and for the purpose set forth.

Fourth, as an improvement in manufacture of hoops, the cutting of the hoop from the edge of the plank by a cut alternately in a bevel line and in a right line to the side of the plank, or in alternate bevel lines.

**2,575.**—REES B. SMITH, Mount Pleasant, Ohio.—*Composition for Roofing and other Purposes.*—Patented July 31, 1866; reissued April 23, 1867.

**Claim.**—The composition, for roofing and other purposes, consisting of the ingredients in about the proportions described.

**2,576.**—N. SPOFFORD, Haverhill, Mass.—*Brace for Bit.*—Patented November 1, 1859; reissued April 23, 1867.

**Claim.**—First, a bit stock, constructed with a tapered socket transverse to the arm or portion of the stock in which it is formed, and said arm slitted along its center line, so as to divide said socket lengthwise into two equal parts to form an expanding socket, substantially as and for the purpose described.

Second, the slitted socket A, constructed with the inward projections or lips d d at its larger end to close over the shoulders of the bit shank, for the purpose of retaining said shank with the socket, when clamped substantially as set forth.

Third, arranging the socket A of a brace with a slot a, as described, in combination with a thumb screw D and slips or projections d, or their equivalents, substantially as and for the purpose set forth.

**2,577.**—EDWIN P. BAUGH, Philadelphia, Pa.—*Grinding Mill.*—Patented March 7, 1865; reissued April 30, 1867.

**Claim.**—First, constructing the shell A of a number of tapering cast-iron sections b, and an exterior cast-iron casing, the said sections being adapted to the casing and held in place, substantially in the manner described.

Second, constructing the burr of a number of a tapering cast-iron sections b, held in place substantially in the manner described.

Third, the ring L, made separate and distinct from the shell, but serving to support both the outer casing of the same and the sections b of the shell, as set forth.

**2,578.**—ALFRED B. ELY, Newton, Mass., assignee of REUBEN W. DREW.—*Sewing Machine.*—Patented November 5, 1861; reissued April 30, 1867. (Division A.)

**Claim.**—First, rotating and operating positively the thread guide within a supporting horn for entering the work, so that the thread shall be laid in the path of the hook of the needle, whatever the form, direction, or length of seam, by means substantially as described.

Second, rotating and operating the thread guide or whir by means of a geared rod, constructed and operating substantially as and for the purposes described.

Third, the combination of sliding cam L, rack bar N, rod O, and whir, or their equivalents, substantially as and for the purposes described.

Fourth, so constructing and arranging the whir in relation to its actuating devices that it may be rotated and operated by a geared rod, substantially as described.

Fifth, the combination of a horn for entering and supporting the work with a rotating geared rod for operating the whir, and a whir for presenting the loop to the barb of the needle, substantially as described.

**2,579.**—ALFRED B. ELY, Newton, Mass., assignee of REUBEN W. DREW.—*Sewing Machine.*—

Patented November 5, 1861; reissued April 30, 1867. (Division B.)

**Claim.**—First, so constructing and so arranging the parts of a sewing machine, in combination with a main operating shaft, that the needle bar, when positively or directly attached or coupled to its actuating arm, can be revolved positively and freely above the work and to any desired extent in the direction at the will of the operator as the stitching progresses, and be made to operate for any length of time at any position of its revolution by means substantially as described.

Second, so constructing and arranging the needle bar and the feeding point that they can be revolved either way together and preserve their relative positions.

Third, so constructing and combining the rotating needle bar with the feeding point that the feed shall form a guiding point to the needle and space the stitches.

Fourth, the combination of the spring cast-off needle and feeding point, when constructed and arranged substantially as described.

Fifth, the adjustable eccentric with its connections, or their equivalent, for altering or adjusting the throw of the needle bar.

Sixth, the mechanism, substantially as described, for revolving the needle, or it and the parts connected therewith, or presenting them properly to the work by hand that the seam may be laid in any direction as the sewing progresses.

Seventh, revolving the needle bar automatically by means substantially as described.

**2,580.**—ALFRED B. ELY, Newton, Mass., assignee of REUBEN W. DREW.—*Sewing Machine.*—Patented March 5, 1861; reissued April 30, 1867. (Division C.)

**Claim.**—First, so constructing and so arranging the parts of a sewing machine in combination with a main driving shaft, and so combining the operations of the needle and thread guide, actuated substantially as described, that any change of position of the needle to the work shall be accompanied by a corresponding change of position of the thread guide in sewing either way and to any desired extent in either direction, substantially as set forth.

Second, in combination with a work-supporting horn, substantially as described, so constructed and arranging the parts of a sole sewing machine that while in the sewing of curves and angles the barb of the needle shall be made to enter and pierce the work across the line of seam, the whir shall be revolved and operated so as to lay the thread across the needle barb along the line of seam, substantially as set forth.

Third, the combination of cam cylinders S and L, or their equivalents, with their connections, substantially as and for the purposes described.

Fourth, the sliding cam L, for changing the position of the whir operating mechanism, substantially as described.

Fifth, the combination of a hook needle for seizing the loop, with a horn for entering and supporting the work, a geared rod for operating the whir, and a whir for presenting the loop to the needle, substantially as described.

Sixth, the combination of a hooked needle cast-off for shedding the loop, and feeding device for feeding the work with the horn-geared rod and whir, substantially as described.

**2,581.**—CORNELIUS CALLAGHAN, Boston, Mass., assignee of WILLIAM R. LANDFEAR.—*Breech-loading Fire-arm.*—Patented September 6, 1864; antedated August 19, 1863; reissued April 30, 1867.

**Claim.**—In combination with a breech-loading arm, a mechanism by which simultaneously a cartridge is driven into the barrel, the breech block and hammer is securely locked against the barrel and the piece is discharged, all by drawing the trigger, substantially as set forth.

Also, the lever o n, applied to the breech and in combination with the opening d d in the frame B, substantially as and for the purpose specified.

**2,582.**—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignments of A. C. BROWNLICH.—*Harvester.*—Patented January 4, 1859; reissued April 30, 1867. (Division A.)



*Claim.*—First, in a two-wheel machine a frame carrying the cutting apparatus, arranged to vibrate about a center coincident with the center of rotation of a bevel wheel, which is mounted on an axis parallel with but independent of the main drive-wheel axle.

Second, the combination in a two-wheel machine of a vibrating frame carrying the crank shaft and pinion with a frame carrying the bevel wheel, mounted on an axis independent of the main drive-wheel axle in such manner that the axis of rotation of said bevel wheel and the axis of oscillation of the vibrating frame shall coincide.

Third, so connecting a vibrating frame carrying a crank shaft and pinion with the frame carrying the bevel wheel, mounted on an axle independent of the main gear wheel, as that the axis of oscillation of said vibrating frame shall coincide with the axis of rotation of the two supporting wheels, the main gear wheel, and the bevel wheel, substantially as described.

**2,583.**—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignments of A. C. BROWNLICH.—*Harvester*.—Patented January 4, 1859; reissued April 30, 1867. (Division B.)

*Claim.*—First, a vibrating frame carrying the cutting apparatus, arranged to vibrate around a center coincident with the axis of rotation of a bevel wheel, which is mounted on an axis independent of the main drive-wheel axle, in combination with a means for locking or setting said vibrating frame at any desired angle of inclination to the ground.

Second, in a two-wheel machine a gear block or frame for supporting the gearing, provided with a recess for the draft pole, constructed in one piece, substantially as described.

**2,584.**—RICHARD BURR, Philadelphia, Pa., and THE SILVER LAKE MANUFACTURING COMPANY, Newton, Mass., assignees by mesne assignments of MORRIS BOTTICHER.—*Packing for Stuffing Steam and Other Engines*.—Patented October 4, 1864; reissued April 30, 1867.

*Claim.*—A packing for stuffing boxes, expansion joints, &c., composed of dry powdered substances combined with fibrous material, substantially as set forth.

**2,585.**—G. B. HALSTED, New York, N. Y.—*Handle for Tea and Coffee Pots*.—Patented June 6, 1865; reissued April 30, 1867.

*Claim.*—A handle for metal tea and coffee pots, constructed of two longitudinal parts swaged and struck up in any desired form out of tinned plate, and connected together by solder or otherwise, substantially as herein set forth.

**2,586.**—DAVID HAMMOND, Canton, Ohio.—*Bridge*.—Patented July 3, 1866; reissued April 30, 1867.

*Claim.*—First, the arch B, composed of two double T-irons *b b*, combined and arranged with clamping and securing pieces and covering pieces, in the manner and for the purpose herein specified.

Second, the clamping piece D, constructed and arranged as hereinbefore specified.

Third, the clamping piece P, constructed and arranged as hereinbefore specified.

Fourth, the securing piece J, constructed and arranged as hereinbefore specified.

**2,587.**—MODENA HAT COMPANY, New York, N. Y., assignees by mesne assignments of HENRY LOEWENBERG.—*Fabric for Hats, Bonnets, &c.*—Patented February 28, 1865; reissued April 30, 1867.

*Claim.*—The new compound fabric hereinbefore described, having substantially a foundation of interlaced threads, and a surface composed of fibrous material, stiffened by gelatinous matter and consolidated by pressure.

**2,588.**—GEORGE S. LINCOLN & Co., Hartford, Conn., assignees by mesne assignments of FRANCIS A. PRATT.—*Device for Stopping and Changing Motion*.—Patented September 4, 1860; reissued April 30, 1867.

*Claim.*—First, the combination of the levers or clamps *e*, disk or collar *j*, substantially as and for the purpose described.

Second, the application of a sliding or wedge collar *e*, or its mechanical equivalent, for the purpose of operating the said levers or clamps *e*, substantially as described.

Third, the clamps *e*, or their mechanical equivalents, in combination with the set screws *e'*, or their mechanical equivalents, with proper actuating device, substantially as and for the purpose described.

**2,589.**—JAMES B. FORSYTH, Roxbury, Mass.—*Manufacture of India-rubber Rollers*.—Patented November 13, 1866; reissued May 7, 1867.

*Claim.*—A roller for clothes wringers, and for other purposes, made substantially as herein described, as a new article of manufacture.

**2,590.**—C. JILLSON, Worcester, Mass.—*Animal Trap*.—Patented November 16, 1858; reissued May 7, 1867.

*Claim.*—First, a rat or animal trap in which the jaws are moved in a plane and parallel with each other, and which, when tripped, shall close up or contract the said opening, substantially as herein described and represented, and for the purposes set forth.

Second, casting or forming the piece to which the rear end of the toggle joint is hinged in an animal trap, in which a toggle joint is used to set the trap by bringing the joints upon a line or nearly so with a lip or projection *m*, for the purposes stated.

Third, the combination of the adjusting screw *n* with the lip or projection *m* in an animal trap, for the purposes stated.

Fourth, the combination, in an animal trap, of a hinged trigger E and hinged arm F, with an adjusting screw to regulate the set of the trap, for the purposes stated.

**2,591.**—ROBERT O. LOWRY, Tabor, Iowa.—*Tiles and Bricks for Roofing and Other Purposes*.—Patented February 5, 1867; reissued May 7, 1867.

*Claim.*—First, a plastic cement, composed of marl or clay and sand and coal tar mixed together in suitable proportions, substantially as described.

Second, a roof composed of unglazed and unburned slabs or tiles, which are secured firmly down upon the roofing boards, and then covered with a cement consisting of marl or clay and sand and coal tar, substantially as described.

**2,592.**—HERMAN MILLER, Hoboken, N. J.—*Paint Can*.—Patented March 26, 1867; reissued May 7, 1867.

*Claim.*—The cover B, which is made of wood, iron, or other suitable material, and which is serewed to the paint can A, for the purpose of easily opening and reclosing the same, substantially as herein shown and described.

**2,593.**—N. TREADWELL, New York, N. Y.—*Apparatus for Supplying Gas or Steam on Steamboats and Other Vessels*.—Patented September 25, 1866; reissued May 7, 1867.

*Claim.*—A pumping mechanism applied between the gas holder and the burners on a boat or vessel, for taking the gas from the holder and supplying the same to the burners, substantially as set forth.

**2,594.**—C. WHEELER, Jr., Poplar Ridge, N. Y.—*Cutting Device for Harvesters*.—Patented September 2, 1856; reissued May 7, 1867.

*Claim.*—In combination with the guard finger ledger plate and scolloped cutter, as described, the plate resting on the finger bar as a bearing for the rear projections of the cutter and to give an open space between the cutter and finger bar for the passage of dirt and grit, substantially as described.

Also, in combination with the ledger plate, a guard finger having a rigid cap and an open space behind the cutters, a recess in the body of the guard extending from the point of connection of the cap with the body of the finger back to the finger bar, substantially as described.

Also, the ledger plate locked with the guard finger by projections on the under side of the plate so as to prevent lateral movement, in combination with the ledge to prevent vertical movement at its front end, substantially as described.

Also, the combination of the ledger plate with the guard finger so as to make a finger having a slot through which the cutter vibrates that is wider verti-



cally at its back than at its front end, and that has an enlarged opening in rear of the cutter bar for the discharge of grit, fiber, &c., substantially as described.

Also, arching the cap of the guard finger and extending it back and uniting it to the body of the guard finger in the rear of the finger bar so as to form an open space between it and the finger bar for the knife bar and the rear part of the cutters to operate in, substantially as described.

**2,595.**—GEORGE MERRITT, New York, N. Y.—*Pencil Point Protector*.—Patented March 5, 1867; reissued May 7, 1867.

*Claim.*—First, a pencil-point protector made with two or more wings  $A^1 A^2$  adapted to fit on the inclosed pencil M, substantially as herein specified.

Second, the metal piece  $A A^1 A^2$  and the spring B adapted to operate together upon the end of an ordinary wood pencil, substantially as and for the purpose herein specified.

Third, the combination of a rubber eraser D with the metallic portion so as to give the proper erasive property to the exterior, and also to contribute by its contractile force to the claspings of the metallic portion upon the wood of the contained pencil, substantially as herein specified.

Fourth, the scooped and flaring mouth  $a^2 a^1$  on the metallic pencil-point protector, substantially as herein specified.

**2,596.**—JOHN M. MULLER, Cobleskill, N. Y.—*Tanning*.—Patented November 14, 1865; reissued May 7, 1867.

*Claim.*—First, a tanning ooze which is made from the ingredients herein mentioned, and combined in about the proportions set forth.

Second, the combination and use of yarrow and other astringent substances for making an ooze for tanning.

Third, subjecting stuffed or unstuffed skins or leather to the action of a steam bath, substantially as described.

**2,597.**—THE RUMFORD CHEMICAL WORKS, Providence, R. I., assignees by mesne assignments of E. N. HORSFORD.—*Manufacture of Phosphoric Acid and Phosphates for Use in the Preparation of Food and for Other Purposes*.—Patented April 22, 1856; reissued May 7, 1867.

*Claim.*—First, the mixing in the preparation of farinaceous food with flour of a powder or powders, such as described, consisting of ingredients of which phosphoric acid or acid phosphates and alkaline carbonates are the active agents for the purpose of liberating carbonic acid, as described, when subjected to moisture or heat, or both.

Second, the use of phosphoric acid or acie phosphates when employed with alkaline carbonates, as a substitute for ferment or leaven in the preparation of farinaceous food.

**2,598.**—WILLIAM H. CORY, New York, N. Y., assignee by mesne assignments of THOMAS WRIGHT.—*Broom*.—Patented November 13, 1866; reissued May 14, 1867.

*Claim.*—The splints or strips made of any suitable material inserted in bundles through apertures formed in pairs in the base plate of the broom by looping them as described, said apertures being connected by a groove or recess to accommodate the loop, and the latter held to its place by a back or upper plate, substantially as shown and described.

**2,599.**—HARVEY LOCKE, Grand Rapids, Mich.—*Machine for Removing Seeds from Raisins*.—Patented November 28, 1865; reissued May 14, 1867.

*Claim.*—First, the combination of mechanism for compressing the fruit and ejecting the seeds, with a clamp for attaching the raisin-stoning machine removably to a table or support, substantially as set forth.

Second, the combination of the compressing jaw with the grate and expeller, substantially as set forth.

Third, the retainer G, in combination with the compressing jaw and seed expeller, substantially as set forth.

Fourth, removing the seeds from the expeller F by a clearer H, substantially as set forth.

Fifth, removing the raisins from the machine by the clearer I, substantially as set forth.

Sixth, the blade L in combination with the clearer H, for the purposes and substantially as set forth.

Seventh, in a machine for stoning raisins the combination of mechanism for compressing the fruit with mechanism for injecting and removing the seeds, substantially as set forth.

**2,600.**—JOHN BALMORE, Harlem, N. Y.—*Pipe Cutter*.—Patented February 19, 1867; reissued May 14, 1867.

*Claim.*—First, in a pipe wrench with a hook-shaped jaw hinged to a nut through which the shank passes, the round cup-shaped point  $c$  to operate in combination with the hinged hook-shaped jaw A, in the manner and for the purpose set forth.

Second, the cutter D and groove  $d$ , in combination with the shank C, nut B, and hook A, constructed, arranged, and operating substantially as and for the purposes set forth.

**2,601.**—N. BRITTAN, Chicago, Ill.—*Lightning Rod*.—Patented July 19, 1864; reissued May 14, 1867.

*Claim.*—First, a lightning conductor consisting of a single continuous flat strip of copper, as herein shown and described.

Second, in combination with the single continuous flat strip A the tubular projecting portion  $c$ , as herein set forth.

Third, the points  $i$  formed of spiral coils, when combined in one piece with the tubular portion  $h$ , and the continuous flat strip A, as herein shown and described.

**2,602.**—GEORGE W. D. CULP, Allensville, and WILLIAM J. KEENEY, Florence, Ind.—*Harvester Cutter; Bar Connection*.—Patented August 25, 1863; reissued May 14, 1867. (Division A.)

*Claim.*—So connecting the pitman B to the cutter bar A of a harvesting machine, by means of a single conical or conoidal journal  $b$  passing into a corresponding shaped socket in the lug  $a$ , and secured therein by a friction plate C, substantially as and for the purpose set forth.

Also, the set screw D, in combination with the friction plate C, conical or conoidal journal  $b$  and lug  $a$ , substantially as and for the purpose set forth.

**2,603.**—GEORGE W. D. CULP, Allensville, and WILLIAM J. KEENEY, Florence, Ind.—*Harvester Cutter; Bar Connection*.—Patented August 25, 1863; reissued May 14, 1867. (Division B.)

*Claim.*—The conical or conoidal point or journal H, constructed with a shoulder or collar  $h'$  to form a bearing for the confining plate I, substantially as and for the purpose set forth.

Also, the single conical or conoidal wrist or journal H, in combination with the solid box F, having a corresponding socket and confining plate I, as described and for the purpose set forth.

**2,604.**—GEORGE W. D. CULP, Allensville, and WILLIAM J. KEENEY, Florence, Ind.—*Harvester Cutter; Bar Connection*.—Patented August 25, 1863; reissued May 14, 1867. (Division C.)

*Claim.*—Connecting the pitman of a harvesting machine to the crank or fly wheel wrist by means of a solid pivoted box, as and for the purposes set forth and described.

Also, the forked pitman, or its equivalent, provided with pivot points opposite each other, in combination with the pivoted box provided with centers for said pivot points, so arranged that said box may rock freely, as described and for the purpose set forth.

Also, the center screw G or its equivalent, in combination with the pivoted box F and pitman B, for the purpose of taking up the slack on the pivots of the pivoted box, substantially as described.

**2,605.**—ELLIOTT P. GLEASON, New York, N. Y., assignee of AMOS H. RAY.—*Gas Burner*.—Patented June 15, 1858; reissued May 14, 1867.

*Claim.*—First, the construction and arrangement within the burner shell of the corrugated cone D, the heating tube G, and a suitable perforation or inlet  $e$ , with the mode of operation, substantially as and for the purpose described.

Second, the construction of a gas burner, the sue



of a tip constructed and secured substantially as described.

**2,606.**—JOHN S. HOAR, West Acton, Mass.—*Vise*.—Patented June 19, 1866; reissued May 14, 1867.

*Claim.*—As a special improvement in bench vises of the kind described, or those to turn horizontally on a bed plate, is the combination of all the several parts of the vise, when constructed and arranged substantially as herein described.

Also, the particular shape herein shown and described, of the jaws of the vise, such causing them to be eccentric with respect to the shank E.

**2,607.**—THOMAS S. HUDSON, East Cambridge, Mass.—*Barometer Inkstand*.—Patented June 4, 1861; reissued November 15, 1864; and again reissued May 14, 1867.

*Claim.*—The improved barometric inkstand consisting of the combination of the dip basin, elevated ink cistern, hollow connecting arm, and shell base, substantially as before set forth.

Also, the combination of the dip basin, elevated ink cistern, hollow connecting arm and base, with a collar secured to the dip basin, substantially as before set forth.

Also, the combination of the dip basin, elevated ink cistern, hollow connecting arm and base, with a tunnel cup, substantially as before set forth.

Also, the combination of the dip basin, elevated ink cistern, hollow connecting arm and base, with a cover for the dip basin, substantially as before set forth.

**2,608.**—PHILO SYLLA, Elgin, and AUGUSTUS ADAMS, Sandwich, Ill., assignees by mesne assignments of themselves.—*Harvester*.—Patented September 20, 1853; reissued May 17, 1859; and again reissued May 14, 1867.

*Claim.*—First, the combination of a finger beam, with slotted guard fingers, a reciprocating scolloped cutter, a double hinge connection between the finger beam and the main frame, and a driving shaft for the cutting apparatus, parallel or nearly so to the ground.

Second, the combination of a double hinge floating finger beam with slotted guard fingers, a reciprocating scolloped cutter, and a removable platform for converting the machine from a mower to a reaper.

Third, the combination of a finger beam with slotted fingers, a reciprocating scolloped cutter, a hinged connection to the main frame, a removable platform, and a reel.

Fourth, the combination of a finger beam with slotted fingers, a reciprocating scolloped cutter, a hinged connection to the main frame, and arms or levers, or their equivalents, for adjusting the height of the cutting apparatus.

**2,609.**—THE BAILEY WASHING AND WRINGING MACHINE COMPANY, Woonsocket, R. I., assignees by mesne assignments of S. A. BAILEY.—*Machine for Wringing Clothes*.—Patented April 5, 1859; reissued June 28, 1864; and again reissued May 14, 1867.

*Claim.*—First, the employment of the wooden spring piece *a a*, which is divided into two parts at its center, each part being slotted from the place of division, as shown in the drawing, towards its outer end, the same being covered by rubber cylinder, substantially in the manner and for the purpose specified.

Second, the spring F, in combination with elastic rollers, for the purpose set forth.

Third, in a wringing machine, substantially of the kind herein described, the combination of elastic rollers, impervious to water, with the standards B and vessel A, secured and operated substantially as and for the purpose specified.

**2,610.**—CYRENUS WHEELER, Jr., Auburn, N. Y.—*Harvester*.—Patented December 5, 1854; reissued January 3, 1860; and again reissued May 14, 1867.

*Claim.*—In combination with a harvester frame that is free to vibrate about a gear center, a laterally projecting finger-bar, so hinged to one end or corner of said frame as to permit the finger-bar at each end to follow the undulations of the ground over which it is drawn.

**2,611.**—CYRENUS WHEELER, Jr., Auburn, N. Y., assignee by mesne assignment of JONATHAN F. BAR-

RETT.—*Raising and Lowering the Cutters of Harvesters*.—Patented July 10, 1855; reissued May 14, 1867.

*Claim.*—First, the combination of the frame carrying the cutting apparatus vibrating about a gear center, and the vibrating draft frame.

Second, the combination of the frame carrying the cutting apparatus vibrating about a gear center with a vibrating draft frame and the lever, or its equivalent, for raising and lowering the cutting apparatus attached to said draft frame.

Third, the combination of the draft frame attached directly to the axle of the driving wheels with a frame carrying the cutting apparatus, vibrating about a gear center.

Fourth, the combination of a vibrating draft frame, a frame carrying the cutting apparatus vibrating about a gear center, and a driver's seat attached to said draft frame.

**2,612.**—DENNIS G. LITTLEFIELD, Albany, N. Y.—*Base Burning Stove*.—Patented December 9, 1862; antedated November 26, 1862; reissued May 14, 1867.

*Claim.*—First, the mill gate B A B, constructed and operating substantially as and for the purpose herein described.

Second, the flaring portion of the center case M', in combination with the furnace D, substantially as and for the purpose described.

Third, the furnace D, opening into and in combination with the chamber E E E, and so constructed as to emit both light and heat from the burning coal, in an upward direction, substantially as and for the purposes set forth.

Fourth, in combination with the subject-matter of my third claim, the plates *f f* and *c e*, which form the floor of the chamber E E E, and a register opening from the ash pit, substantially as and for the purposes set forth.

Fifth, the compelling of the draft from the grate while the fire is kindling, and previous to and during the process of replenishing the magazine, to pass through the magazine for the purpose specified, by the means I have devised or by any other analogous devices.

Sixth, the chamber I, communicating with the flue P, whereby air finding admission through the aperture over which rests the cover R passes at once to the exit flue, as specified.

Seventh, the divided flue K around the chamber I, and forming a communication between the chambers E E E and the flue P, whereby the products of combustion are drawn to the smoke pipe and chimney, and the heat rendered more effective by its proper diffusion within the burner, as herein set forth.

Eighth, the plate V forming the top of the magazine, and projecting out over it to the outer case, and having apertures *o* at the front side, and another *u* into the flue P as described, substantially as and for the purposes set forth.

Ninth, such adjustment of parts of the magazine stove as will carry the whole volume of the heated products of combustion to the front region of the stove, and thence to the rear part of it, over the top of the magazine, in the manner I have described or by any other analogous devices.

Tenth, the gate-like sliding cover N, in combination with the magazine H, as and for the purpose herein set forth.

Eleventh, the inward deflection of the case M<sup>2</sup>, in its relation to and combination with the furnace and chamber E E E, substantially as and for the purposes set forth.

Twelfth, the window openings in the outer case at M<sup>2</sup>, in combination with the recession of the case, substantially as and for the purposes set forth.

**2,613.**—RICHARD B. WALKER and LEWIS MILLER, Akron, Ohio, assignees of JOHN V. JENKINS.—*Machine for Shearing Sheep*.—Patented October 21, 1856; reissued May 14, 1867.

*Claim.*—First, a flexible and extensible connection between the stationary or first moving power and the shears, whereby the shears may, while cutting, be moved over and around the body of the animal, substantially as described.

Second, so constructing the shears of a power-shearing machine as that it can be held and guided by one hand, leaving the other hand of the operator free, substantially as described.



Third, encasing the mechanism that drives the shear, so that the wool or fleece cannot become entangled therein, substantially as and for the purpose set forth.

Fourth, driving the vibrating arm to which the moving shear or cutter is attached directly from an eccentric, substantially in the manner described.

Fifth, a guard plate or projection under the stationary fingers, to regulate the height as well as the length of cut at each vibration of the shear, substantially as described.

Sixth, a presser, to regulate the pressure of the vibrating knife or shear upon the stationary fingers, substantially as described.

Seventh, the placing or locating of the power by which the shears are vibrated remote from the shears, thus leaving the hands of the operator free, one to hold the animal, the other to guide and direct the shears, substantially as described.

Eighth, so attaching the fingers to the bed plate as that they can be readily detached for being sharpened, substantially as described.

Ninth, the arrangement of a slotted vibrating plate or sway bar, so that a wrist may give motion to it laterally without moving it longitudinally, substantially as described.

Tenth, guiding and directing the cutters or shears by the hand of the operator, when said cutters are driven by power independent of said operator, substantially as described.

**2,614.**—RICHARD B. WALKER and LEWIS MILLER, Akron, Ohio, assignees of JOHN V. JENKINS.—*Sheep-shearing Machine*.—Patented September 8, 1857; reissued May 14, 1867.

*Claim.*—Attaching or suspending the cutter and its connections to an extended or projecting arm, substantially as and for the purpose described.

Also, transmitting the power to drive the shear cutter, through or by means of one or more endless belts and one or more shafts and one or more universal joints, whereby greater range of motion can be given to the cutter, and increased facilities to the operator in guiding them and in managing the animal to be sheared, substantially as described.

**2,615.**—LEWIS MILLER and R. B. WALKER, Akron, Ohio, assignees by mesne assignments of ALBERT H. KENNEDY.—*Machine for Shearing Sheep*.—Patented January 30, 1866; reissued May 14, 1867.

*Claim.*—First, the extension arm, made with a hinge so that it can be raised or lowered at the will of the operator, substantially as and for the purpose set forth.

Second, in combination with the extended arm, the balancing of it, so that the operator shall be relieved of the weight of the arm in raising it, and also for the purpose of taking up the slack of the connecting shaft, substantially as described.

Third, the coiled wire shaft for transmitting the driving power to the shears, substantially as described.

Fourth, spanning or extending the arm C over the driving shaft and pulley for the purpose of better support, more strength, and greater compactness, substantially as described.

**2,616.**—HENRY C. BERLIN and GEORGE H. JONES, New York, N. Y., assignees of THOMAS V. WAYMOTH.—*Machine for Gumming and Printing Envelopes*.—Patented June 12, 1866; reissued September 25, 1866; and again reissued May 21, 1867.

*Claim.*—First, the construction and operation of the hinged table B, substantially as and for the purpose set forth.

Second, the operation of the movable separator G, or its equivalent, in combination with the gummer D, substantially as and for the purposes set forth.

Third, the combination of the gummer D, and reciprocating carrier F, or its equivalent, and the endless apron H, or its equivalent, arranged and operating substantially as and for the purposes set forth.

Fourth, imparting an intermittent motion by suitable mechanism to the endless apron H, or its equivalent, when combined with a reciprocating carrier F and gummer D, for the purpose set forth.

Fifth, the operation of the rollers *k'*, and finger *l'*, separately or together, in combination with the endless apron H and carrier F, substantially as and for the purposes set forth.

Sixth, gumming the seal flap of an envelope or sim-

ilar blank by a gummer, which performs the double office of gumming the blank and raising or holding it stationary in combination with any suitable mechanism to receive the blanks, one after another after they have been gummed, and carry any such blanks so gummed in such a manner that the gummed portions will be prevented from lying upon or overlapping each other while drying, for the purpose set forth.

**2,617.**—WILLIAM W. HARDING, Philadelphia, Pa., assignee by mesne assignments of RICHARD VAN VELTHOVEN and JOSEPH H. HAZZARD.—*Photographic Album*.—Patented October 17, 1865; reissued May 21, 1867.

*Claim.*—The binding of the sheets or cards of album together by means of strips of leather or muslin, or their equivalents, pasted or secured to the edges of contiguous or alternate sheets successively through the book.

**2,618.**—IGNAZ NEUBURG, New York, N. Y., assignee of JOSEF and IGNAZ NEUBURG.—*Cooking Apparatus and Refrigerator*.—Patented November 6, 1866; reissued May 21, 1867.

*Claim.*—The non-conducting packing or material, composed of pasteboard boxes fitted one within another, substantially as herein set forth for the purpose specified.

Second, the double casing *a b* and non-conducting material *c*, having an annular gutter *m*, openings *i*, openings *g*, and pan *f*, and furnished with the non-conducting cover A in combination with the central vessel B, the whole constructed and arranged substantially as herein set forth for the purpose specified.

**2,619.**—WILLIAM SMITH, South Windham, Conn., executor of the estate of ENOS P. BECKWITH, deceased.—*Paper Cutting Machine*.—Patented December 19, 1865; reissued May 21, 1867.

*Claim.*—First, the employment in a paper cutting machine of a combination of two elements, to wit, a feed mechanism impelled by a motion intermittent, which starts and stops the feed gradually, and a frictional connection, which connection allows a returning motion of the impelling mechanism while the feed is at rest, and takes hold of and releases the feed at any point, without the lost motion due to ratchets and the like toothed connections; all substantially as and for the purpose herein specified.

Second, the combination in a paper cutting machine of a revolving knife with a gradually starting intermittent feed mechanism, substantially as and for the purpose herein set forth.

Third, the within described arrangement of the revolving knife *b*, crank *B<sup>2</sup>*, link *D*, connecting means *E*, and intermittent feeding drum *G*, substantially as and for the purpose specified.

Fourth, in combination with mechanism substantially as herein described for feeding forward and arresting the motion of the paper, adjusting the length of the sheets by changing the position of the link *D*, or its equivalent, substantially as and for the purpose herein set forth.

Fifth, the pendulous piece *C*, arranged relatively to the knives *a* and *b*, to the gradually stopping and starting mechanism *G H*, or its equivalent, in a paper cutting machine, substantially as and for the purpose herein specified.

Sixth, the spring *K* arranged as specified relatively to the intermittent feeding mechanism *E F G*, and their connections in a paper cutting machine.

Seventh, taking hold of the feed roller so as to prevent its recoiling backward when the forward motion is arrested in combination with the feed, having an alternated reversed motion, and gradually starting and stopping, as herein specified.

Eighth, the within-described construction and arrangement of the brake *M*, so as to aid in arresting the forward motion at the proper time as well as to prevent the backward motion.

Ninth, the within-described arrangement of the spring *J*, brake *M*, wheel *G'*, and the connected parts of an intermittent feed in a paper cutting machine, substantially as specified.

Tenth, the catch or dog *N*, with a releasing device therefor in combination with the brake *M*, spring *J*, and suitable means for depressing the same, and the



intermittent feeding drums G H, or their equivalents, in a paper-cutting machine as specified.

Eleventh, the detaching cam B<sup>5</sup> and surface N, brake M, and wheel G' of an intermittent feed in a paper-cutting machine, substantially as specified.

**2,620.**—ROBERT BRYSON, Schenectady, N. Y.—*Harvester Rake*.—Patented April 8, 1861; reissued May 21, 1867.

*Claim.*—First, the combination of the vertical shaft E, angular guide bar I, rake head J, slotted arm F, connecting rod H, vibrating lever G, and crank B, substantially in the manner and for the purpose described.

Second, the combination of the many-sided block K, rake head J, spring stop L, inclined lugs N N', loaded lever hook M, and loaded tripping hook levers O O, the whole being constructed to operate substantially as described.

Third, in combination with a platform hinged to a draft frame having two supporting and driving wheels, a circularly sweeping rake arm or handle, which moves in a plane parallel to the plane of the hinged platform, on a pivot which is on said platform, and which also receives intermittent oscillating motion about its own axis, when the support of such rake arm is located at or near the rear end of the platform which is attached directly to the finger beam, substantially as and for the purpose described.

Fourth, a hinged platform with a vibrating rake mounted upon it, said rake moving in the plane of the top of the platform while sweeping off the grain and then oscillating on its own axis, so as to move back above the grain which is to be swept off by it in its return forward stroke, substantially as herein described.

Fifth, a rake arm which sweeps in the path of a part of a horizontal circle, oscillates in the path of a vertical circle, all without changing its attitude at any point, such rake arm being mounted on a platform which is hinged to the draft frame, and which is directly behind the cutting apparatus, substantially as described.

Sixth, a hinged platform with the elevated extension D, adapted for sustaining a rake which delivers the cut grain in gavels upon the ground in rear of the draft frame, substantially as described.

Seventh, a hinged platform with a rake arm J, which is provided with a latching device, said latching device moving with the rake arm in its passage over the platform, and acting to hold the teeth of the rake arm in a position for raking, and also in a position for passing unobstructedly over the grain upon the hinged platform, substantially as described.

Eighth, a rake which has both a circular vibrating movement and an intermittent oscillating movement, all without changing the plane of the rake arm, mounted on a platform which is hinged to a two-wheeled draft frame, substantially as and for the purpose described.

Ninth, a rake which has both a circular vibrating movement and an intermittent oscillating movement about its own axis, all without changing the plane of the rake arm; such rake being mounted on a hinged platform and driven by a crank and pitman, from the inner side of a draft frame which has two separate and independent driving and supporting wheels, substantially as described.

**2,621.**—GEORGE NIMMO, Jersey City, N. J.—*Manufacture of Black Lead Crucibles*.—Patented May 31, 1864; reissued May 21, 1867.

*Claim.*—The manufacture of crucibles from a composition of which calcined plumbago or old pots ground forms a part, substantially as set forth.

**2,622.**—WILLIAM E. HOOPER & SONS, Baltimore, Md., assignees of BENJAMIN ARNOLD.—*Machine for Making Seine Nets*.—Patented September 23, 1862; antedated August 3, 1860; reissued May 28, 1867.

*Claim.*—First, the arrangement and combination substantially as described of the various implements employed in forming a loop, viz., the bar *m'* with the row of guides *c c c*, and the bars *l* and *o* with their pins.

Second, the bar Y with its double row of pins, for the purpose of holding the netting, as set forth, and when constructed substantially as described.

Third, the combination of the regulating screw

or screws *i' i'*, with the levers *d' d'* and V', for the purpose set forth when arranged substantially as described.

Fourth, the carriage *j* with the rows of bars *a a*, in combination with the raceways S S' and thread carriers *a' a'*, when arranged substantially as described for the purpose set forth.

Fifth, the toggle levers H' H' for the purpose of drawing up the knot, substantially as herein described.

Sixth, a machine constructed and operating substantially as described herein for making nets or netting.

**2,623.**—D. L. BARTLETT and G. H. HUNT, Baltimore, Md., assignees of STUART GWYNN.—*Opaque Pigment*.—Patented December 19, 1865; antedated December 5, 1865; reissued May 28, 1867. (Division A.)

*Claim.*—Opaque pigments, made from any article whose normal atoms or molecules or particles have been crushed by pressure after having been purified, substantially as herein set forth.

**2,624.**—D. L. BARTLETT and G. H. HUNT, Baltimore, Md., assignees of STUART GWYNN.—*Manufacture of Opaque Pigments*.—Patented December 19, 1865; antedated December 5, 1865; reissued May 28, 1867. (Division B.)

*Claim.*—The process of manufacturing opaque pigments by crushing and pulverizing the normal atoms or molecules, substantially as herein described.

**2,625.**—J. W. BOPE, St. Louis, Mo.—*Harvester*.—Patented January 17, 1865; reissued May 28, 1867.

*Claim.*—First, a tilting platform turning upon a pivot in rear of its forward edge, and connected to the main frame of the machine through the medium of the finger bar only.

Second, a tilting platform having a fixed pivotal bearing at its outer or grain end, and in rear of its forward edge, in an arm or support, which is attached to the finger bar and has no rear support from or connection with the main frame.

Third, a tilting platform vibrating upon a fixed pivot in rear of its forward edge, in combination with the cutting apparatus and main frame, in such manner as to leave an unobstructed space in rear of said platform for the delivery of the grain upon the ground.

Fourth, a cut-off for separating the falling grain from the completed gavel on the platform, interposed by the tilting of the main platform upon a fixed point or pivot in rear of its forward edge.

Fifth, a platform which discharges the gavels by turning upon a pivot in rear of its forward edge, in combination with the laterally projecting cutting apparatus of a two-wheel side draft machine.

Sixth, the combination in a two-wheel side draft machine of an adjustable cutting apparatus, a tilting platform connected thereto and turning upon a pivot in rear of its forward edge, and a lifting mechanism, in such manner as that said cutting apparatus and platform can be raised for passing obstructions while the machine is in motion.

Seventh, operating the tilting platform by means of the lever and the chain or cord, in the manner as and for the purpose herein described.

Eighth, the employment of a shield or guard for closing the opening between the finger bar and forward edge of the platform, formed by the tilting of the platform on a pivot in rear of its forward edge.

**2,626.**—EDMUND H. GRAHAM, Manchester, N. H., and WAXTON ROUSE, Taunton, Mass., assignees of EDMUND H. GRAHAM.—*Picker-Staff Motion for Looms*.—Patented October 16, 1860; reissued October 2, 1866; and again reissued May 28, 1867.

*Claim.*—First, the combination of a rocker of a picker staff with its bed by loose journals projecting each side of the picker staff, and arranged beneath the picker staff, substantially as described.

Second, in combination with the rocker the bed, and the journals the open boxes, substantially as and for the purpose described.

Third, in combination with the rocker and its bed the journal-bearing arm, operating substantially as and for the purpose specified.



**2,627.**—THE AMOSKEAG MANUFACTURING COMPANY, Manchester, N. H., assignees of NEHEMIAH S. BEAN.—*Picker-Staff Motion for Looms.*—Patented January 22, 1861; reissued May 28, 1867.

*Claim.*—The improved arrangement of the rocker *b*, the link *c*, and the support piece *e*.

Also, the arrangement of the spring *f* with the support piece *e*, the link *c*, and the rocker *b*.

Also, the arrangement of the cars *g* with the link *c*, the support piece *e*, and the rocker *b*, the whole being substantially as specified.

**2,628.**—THOMAS D. LEDYARD, Toronto, Canada, assignee by mesne assignments of J. J. ENSLEY.—*Generating Gas and Obtaining other Useful Products from Animal and Vegetable Materials.*—Patented August 28, 1866; reissued May 28, 1867.

*Claim.*—Making a compound gas by the mixture in proper proportions of gas made from wood or other vegetable matter with gas made from bones or other animal matter, substantially as and for the purpose herein specified.

Also, the combination of the perforated charge cylinder or vessel *d*, open at the inner end, and the horizontal close retort cylinder or chamber *e*, substantially as and for the purpose herein specified.

Also, the vapor-condensing vessels or chambers *k k*, connected by the pipes *l l*, and provided with discharge cocks *m m*, when used in combination with the inclosing water tank *B*, substantially as described.

Also, the combination and arrangement of the tight vessel or chamber *g* and pipes *p r* with the pipe *n*, for the purpose of pumping off the condensed water which gathers therein without admitting air or allowing escape of gas, substantially as set forth.

**2,629.**—JACOB J. STORER, Boston, Mass.—*Desulphurizing Coal and Ores.*—Patented April 9, 1861; reissued May 28, 1867.

*Claim.*—First, the process, substantially as described, of forcing into the interstices of coals containing sulphurous impurities by the pressure of steam, and either dissolved in it or mechanically conveyed by it, chemicals proper to neutralize the sulphurous impurities.

Second, the employment of salts of ammonia, forced by pressure of steam into the interstices of coals, as and for the purpose described.

**2,630.**—ELMA E. WALTON, Newark, N. J., assignee by mesne assignments of WILLIAM N. WALTON.—*Attaching Labels to Bottles.*—Patented September 23, 1862; reissued May 28, 1867. (Division A.)

*Claim.*—First, shaping the bottle, whether in intaglio or in relieve, so as to form a seat for and protect the label or inscription plate, substantially as and for the purposes set forth.

Second, the arrangement of the lip or ridge *a*, whether distinct from or forming a part of the recess or seat for the label plate, for preventing fluids, &c., entering or passing between the inscription plate and bottle, for the purposes set forth.

**2,631.**—ELMA E. WALTON, Newark, N. J., assignee by mesne assignments of WILLIAM N. WALTON.—*Bottle for Druggists and Chemists.*—Patented September 23, 1862; reissued May 28, 1867. (Division B.)

*Claim.*—A bottle, formed with a recess or seat for a label, whether in intaglio or in relieve, and having secured therein, by cement or other suitable substance, a label with a glass or transparent label or inscription plate, as a new and improved article of manufacture.

**2,632.**—CYREXUS WHEELER, Jr., Auburn, N. Y.—*Harvester.*—Patented February 6, 1855; reissued June 5, 1860; and again reissued May 28, 1867.

*Claim.*—First, the combination of a vibrating frame, a finger attached to one corner or end thereof by a hinge, and a platform in the rear of said finger bar, so as to leave an unobstructed space for the delivery of the grain onto the ground.

Second, the combination of a vibrating frame, with the cutting apparatus hinged thereto, a driver's seat, and an arrangement of one or more levers whereby the driver in his seat can raise and sustain the cutting apparatus when desired.

Third, the combination of a finger bar, hinged to

a vibrating frame, and a removable platform, connected with the said frame by means of the finger bar only.

Fourth, the combination of a hinged finger beam and a side delivery platform, so arranged that the grain may be delivered from the platform onto the ground out of the way of the horses on their next round.

Fifth, the combination of a hinged finger beam, a lever, and a yielding or linked connection extending from the lever to the vibrating part of the machine to which the finger beam is attached, whereby the inner end of the finger beam is raised to pass obstacles in mowing and raised and sustained in reaping.

Sixth, the combination of a hinged finger beam, a lever, a yielding or linked connection extending from the lever to the vibrating part of the machine to which the finger beam is attached, and the seat for the driver, whereby the driver can raise the inner end of the finger beam to pass obstacles in mowing and raise and sustain the same in reaping.

Seventh, the combination of a hinged finger beam with an auxiliary draft rod or bar attached to the inner end of the hinged finger bar.

Eighth, the platform bar *Q* as a means of securing the platform to the finger beam, and for strengthening said finger beam when it has the platform to carry, substantially as described.

Ninth, the inclined caster wheel *S*, arranged as represented and in combination with the platform, whereby the latter is elevated when the machine is being turned short around to the right, substantially as described.

Tenth, in combination with a finger beam and platform placed in rear of the main supporting wheel, the two casters *N S*, arranged as described, for allowing the machine to turn short around to the right, for the purposes specified.

Eleventh, a revolving track clearer, when operated from a ground wheel through gearing, substantially as described.

**2,633.**—OTTO HEINIGKE and MORITZ LAEMMEL, Bay Ridge, N. Y.—*Producing Mosaic Veneers.*—Patented May 29, 1860; reissued June 4, 1867.

*Claim.*—First, the within described method of producing mosaic veneers from strips of any desired cross sections and of various colors, said strips being formed by pressing a suitable plastic material, which will harden after having gone through the whole process, through openings of the required shape, substantially as and for the purpose described.

Second, uniting the strips, formed as above described, into blocks *G*, a cross section of which represents the pattern to be represented by the mosaic veneer, or a portion of the same, substantially in the manner and for the purpose specified.

**2,634.**—J. E. LUCAS, J. P. AREY, and CHARLES G. HOWARD, Springfield, Mass., assignees by mesne assignments of WILLIAM HEPPENSTALL.—*Skirt.*—Patented October 30, 1860; reissued June 4, 1867.

*Claim.*—A woven skirt having hoops or wires inserted into woven pockets, and having woven into the welt draw strings or threads composed of larger or stouter warp yarn than that of which the web generally is formed, substantially as specified.

**2,635.**—STUART PERRY and ADELINE PERRY, Newport, N. Y., assignees by mesne assignments of STUART PERRY.—*Horse Power.*—Patented July 21, 1863; reissued June 4, 1867.

*Claim.*—The combination of an endless chain with a pulley driven by it, and so made that while a bed or bearing furnished with projecting teeth or ribs receives one class of links in such a way as to prevent their slipping, a recessed portion of said pulley shall receive the other or connecting links that hold relatively opposite positions with regard to the other class, substantially as described.

Also, in combination with an endless chain and a pulley driven by it, the steel or chilled teeth or ribs on said pulley, substantially as and for the purpose described.

Also, the combination of an endless chain and a pulley driven by it when said pulley is furnished with pieces inserted and movable, for the purpose of preventing the chain from slipping and to make better



adjustments, and thus increase the durability of the chain and other parts working with it, substantially as described.

Also, in combination with an endless chain and a pulley driven by it, said pulley being furnished with teeth, ribs, or recesses to prevent the chain from slipping, a device that is moved or governed in such a way when the power is operated that it takes up the slack of the chain and makes a more uniform tension, substantially as described.

Also, in combination with an endless chain and with a ribbed, toothed, or recessed pulley driven by it, guide pieces to guide the chain as it passes from the driving wheel accurately into or upon said pulley, substantially as described.

Also, in combination with an endless chain and a pulley driven by it, a wheel or wheels so placed as to hold the links of the chain in the recesses, or between the ribs or teeth of said pulley, substantially as described.

Also, the combination of an endless chain with one or more pieces or pulleys so constructed with a narrow groove as to admit the projecting parts of the alternate links of a coil chain, while the connecting links rest upon the periphery each side of the narrow groove to prevent the twisting of the chain, substantially as described.

Also, in combination with a sprocket or main wheel and chain, a screw buckle, or its equivalent, for taking up and keeping the outer ends of the arms in firmer position, tightening up joints, and for keeping all parts "taut," as also for loosening up the parts when said wheel is to be taken down for transportation, substantially as described.

Also, in combination with an endless chain and a ribbed or notched pulley driven by it, the metallic forks to receive and carry said chain, and an apparatus to take up the slack of the chain and guide the chain to the pulley, substantially as described.

Also, the combined use of the upper and under metallic arm holders, having suitable provision to receive the inner ends of the arms, and the upper holder, pivoted on the top of the center post of the large drive wheel, substantially as and for the purpose described.

Also, arranging the arms of the drive wheel in pairs vertically, one over the other, for giving great stability to the wheel, substantially as described.

Also, in combination with an endless chain and a drive wheel, the use of sockets to hold the outer and inner ends of the arms of said drive wheel, substantially as described.

Also, the use of sockets to hold the outer ends of the drive-wheel arms to facilitate the setting up and taking down of said wheel, as well as to strengthen it when up, substantially as described.

Also, the use of iron tie rods at or near the extremities of the arms of the large driving wheel, for tying said arms in combination with an endless chain, substantially as described.

Also, constructing the large drive wheel with sockets and tie rods and a screw buckle in such manner as wholly or partially to dispense with the use of bolts and nuts or keys, and thus facilitating the setting up and taking down of the wheel when used in the field or when it is to be transported, substantially as described.

Also, in combination with an endless chain and a recessed and ribbed pulley driven by it, one or more metallic arm holders for holding the inner ends of the arms of the drive wheel on which the chain works, substantially as described.

Also, in combination with an endless chain and a sprocket or drive wheel and a recessed or toothed pulley driven by said chain, a piece or part that moves while the power is working to take up the slack, and a series of arms in pairs for giving greater stability to the wheel and more facilities in use, substantially as described.

Also, in combination with a sprocket wheel and a driven wheel, pulley, or drum, a case-hardened steel or cemented chain for the purpose of preventing its being unduly cut or worn away, and thus increasing its durability, substantially as described.

Also, in combination with an endless chain and a pulley driven by it, a wheel pulley or deflecting device for changing the directions of the chain as it passes from the main wheel to the power-transmitting pulley for the purpose of causing the chain to

further encircle the driven pulley by giving it more "bite" or contact therewith, substantially as described.

**2,636.**—HORACE SMITH and DANIEL B. WESSON, Springfield, Mass.—*Priming Metallic Cartridges.*—Patented April 17, 1860; reissued June 4, 1867.

*Claim.*—A primed cartridge case composed of two parts, viz., 1st, a flanged case or shell of one piece of metal and of sufficient length to hold the fulminate, the propelling charge, and the projectile; and 2d, the fulminate arranged substantially in a ring form at the base of said shell in contradistinction to being distributed equally or thereabouts over the entire base, the said two parts being combined and arranged substantially as before set forth.

Also, a complete cartridge composed of the following parts, viz., 1st, a flanged case or shell of one piece of metal and of sufficient length to hold the fulminate, the propelling charge, and the projectile; 2d, the fulminate arranged substantially in a ring form at the base of said shell, as aforesaid; 3d, the propelling charge; 4th, the projectile, these four parts being arranged and combined substantially as before set forth.

**2,637.**—JOHN K. CROSS and ALFRED J. CROSS, Chicago, Ill.—*Apparatus for Graining Pails.*—Patented December 27, 1864; reissued June 4, 1867.

*Claim.*—First, an elastic bed of any suitable material, whether curved or rectangular in form, when arranged in a series of distinct staves or designs, substantially as and for the purposes specified.

Second, constructing the said bed of elastic material in the curved form shown, to be applied as described whether said bed be arranged in a series of distinct designs or in one general design, for the purposes set forth.

**2,638.**—THEODORE E. KING, Painesville, Ohio.—*Fence.*—Patented June 26, 1866; reissued June 4, 1867.

*Claim.*—First, the plate C when used in correlation to the picket and rail, either in a series or singly, with its intaglio surface corresponding to the conformation of the said picket or rail, substantially as and for the purpose set forth.

Second, strengthening the fence panels and uniting the pickets and rails thereof by means of plates or sets of plates, (Figs. 3 and 5,) and so arranged at right angles to the picket and rail, and in combination therewith, that the said plates shall form a series of supports to the panel sections, substantially as specified.

Third, the plate, Fig. 3, or its equivalent, when so arranged in relation to the rail that the said plate shall form an extension of the picket above, and constitute a brace or support for the fence panel in conjunction with the picket and rail, substantially as set forth.

Fourth, the adjustable hinges, constructed with the depressions *a a a* and slots *U U*, substantially as shown in Figs. 10 and 11, in combination with the tooth *b* and screw holes *c c* of the lower plating of the gate, as herein described and for the purpose specified.

Fifth, the adjustable catch, as shown in Figs. 14 and 15, provided with the screw bolt *W* and stud *X*, in combination with the opening *Y* of the post, and constructed and arranged as and for the purpose set forth.

**2,639.**—CHARLES C. MORE, Pittstown, N. Y., assignee by mesne assignments of E. F. and J. HERINGTON.—*Mowing Machine.*—Patented April 9, 1861; reissued June 4, 1867.

*Claim.*—First, a shoe brace, which is rigidly attached to the finger bar and which extends backward between the drive wheels on a line parallel or nearly parallel with the side of the main frame and is hinged at its rear end to said frame.

Second, connecting the finger bar to the shoe brace, which is hinged at its rear end to the main frame in such manner as to allow said finger to rise and fall at each end independently of the other to conform to the surface of the ground over which it is drawn.

Third, the lateral brace rod, in combination with



the shoe brace, substantially as and for the purpose set forth.

Fourth, the combination in a forward-cut machine of a hinged cutting apparatus with the main frame in such manner that both ends of said cutting apparatus, each end independently of the other, may be raised by the attendant on the machine by the operation of a single lever.

Fifth, the combination of a lifting mechanism with the hinged cutting apparatus in such manner that said cutting apparatus may be raised or turned up into a vertical or nearly vertical position for passing obstruction by the operation of a single lever by the driver on his seat on the machine.

Sixth, a lifting lever, provided with an internal segment rack, for the purpose specified.

Seventh, a lifting lever, provided with a segment rack, in combination with a foot latch for holding said lever, as described.

Eighth, the combination of a lifting lever with a hinged cutting apparatus which can be turned up by the side of the machine and a foot latch for holding said lever when the cutting apparatus is raised.

Ninth, the foot rack or bar, or its equivalent, operating upon the heel end of the cutting apparatus to hold said end while the point of the cutting apparatus is being turned up, as set forth.

Tenth, the combination of the foot rack and the segment lever, or their equivalent, for the purpose specified.

Eleventh, the employment of a spring for holding the foot rack out of gear or lock, when not in use, to allow the cutting apparatus to follow the surface of the ground over which it is drawn.

Twelfth, the arrangement of pinions on the opposite ends of the counter shaft, in combination with a mechanism for simultaneously throwing said pinion into or out of gear.

Thirteenth, the employment of the pivoted levers  $d^3 d^3$ , forked at one end and operating in the manner and for the purpose specified.

Fourteenth, the employment of the wedge  $d^5$ , for the purpose specified.

Fifteenth, the double horizontal hinged connection between the heel of the cutter bar and connecting rod.

Sixteenth, the reversible wedge, or its equivalent, for changing the angle of presentation of the cutters to the ground.

Seventeenth, the combination in a harvesting machine of the following elements, viz; a main frame, an independent seat and tongue frame, and a hinged cutting apparatus, which is free at each end, independently of the other end and of the main frame, to follow the surface of the ground over which it is drawn.

**2,640.**—WORDEN P. PENN, JACOB GEISS, and JACOB BROSIUS, Belleville, Ill.—*Grain Drill*.—Patented June 27, 1865; antedated December 27, 1864; reissued June 4, 1867.

*Claim.*—First, bracing the drill toothed to its drag bar by means of a separate brace, in such a manner as to allow it to fold forward without breaking the wood pin, substantially as set forth.

Second, the arrangement consisting of slides C, fixed plates  $d$  with cheek pieces  $o^2$  and movable plates  $d^1 d^2$ , in combination with the hopper, all constructed, arranged, and operating in the manner and for the purposes specified.

Third, the construction of agitating slide with double beveled projections  $e' e'$  and cleaning pins  $e^2$  in combination with the divisions  $a a$ , vibrating hangers  $D^3$ , and seed-distributing devices, shown substantially as and for the purposes specified.

Fourth, the long cut-off plate  $d$ , arranged with the plates  $d d'$  and slide C, and connected with the drill teeth by means of the pivoted vibrating bar E and chains  $g$ , and operated by a handle  $E'$ , all in the manner and for the purposes specified.

Fifth, the pendent stand board J, arranged substantially as described, upon a seed drill, for the purposes set forth.

**2,641.**—ADAM R. REESE, Phillipsburg, N. J., assignee of THOMAS N. LUPTON.—*Rake for Reaping Machines*.—Patented September 25, 1855; reissued June 11, 1867.

*Claim.*—First, arranging the automatic rake so as to pursue a path parallel or nearly so to the side of

the platform next to the standing grain, thence across the platform parallel or nearly so to the front, and thence towards the rear of the platform, and then returning to the place of beginning continuously.

Second, an automatic rake, in combination with an elongating arm or shaft, for carrying or driving it.

Third, an automatic continuously-rotating rake on a vertical axis mounted on the platform, in combination with a straight finger beam.

Fourth, attaching the rake head to an extensible arm in such manner as to allow the rake head to follow the contour of the platform in its rotation.

**2,642.**—BENJAMIN S. STOKES, Manchester, N. H.—*Crucible for Metallic Baths*.—Patented July 25, 1865; reissued June 11, 1867.

*Claim.*—A crucible, having its outer surface protected in whole or in part by a metal jacket or covering, or the equivalent thereof, substantially as set forth.

Also, combining with an inner and an outer crucible a space or chamber between them, filled with sand or equivalent material, substantially as described.

**2,643.**—WILLIAM N. WHITELEY, Springfield, Ohio, assignee of JOHN S. TROXEL.—*Harvester*.—Patented May 11, 1858; reissued June 11, 1867. (Division A.)

*Claim.*—First, mounting and operating an overhanging reel for a harvester upon a vibrating yoke or frame pivoted at the axis of the shaft which drives or communicates motion to the reel, so that the reel may be moved backward or forward, as desired, without materially affecting the length of the band or other driving mechanism, substantially for the purposes set forth.

Second, pivoting the reel yoke or support at the axis of the shaft which drives the reel, in combination with the slot H, or its equivalent, and a clamping device to render the adjustment back and forth quick and easy, and to retain the reel at any point desired, substantially for the purpose set forth.

**2,644.**—JAMES T. BARNES, Hudson City, N. J.—*Caster*.—Patented October 30, 1866; reissued June 11, 1867.

*Claim.*—First, the caster, constructed as described, having the shank A cast directly upon the central portion B of the axle between the two wheels, as herein set forth, for the purpose specified.

Second, the arrangement of the wheels  $a a$ , in combination with the shoulder shank A, arm B with its axle  $d d$ , and the washers  $c$ , and bolt  $b$ , substantially as and for the purpose herein shown and described.

Third, the shank A, enlarged upon two of its sides to form a shoulder  $f$ , fitting and turning loosely from the rib  $h$  upon the inside of the mouth of the socket C, said socket being sprung open to receive the shank, as herein set forth, for the purpose specified.

**2,645.**—JOHN D. SHEPARD, Buffalo, N. Y., assignee of HORATIO O. PERRY.—*Valve Motion for Steam Engines*.—Patented March 25, 1856; reissued June 11, 1867. (Division A.)

*Claim.*—The valve motion above described, as arranged in relation to and in connection with the loosely attached, hollow throated, and partially rotating valve, substantially as described and for the purpose herein set forth.

**2,646.**—JOHN D. SHEPARD, Buffalo, N. Y., assignee of HORATIO O. PERRY.—*Valve for Steam Engine*.—Patented March 25, 1856; reissued June 11, 1867. (Division B.)

*Claim.*—Holding the axis of the hollow throated, partially cylindrical valve V T, coincident with the center of the curve of the cylinder face by oscillating it by acting on the duplicate bearings  $V^1 V^2 S^1 S^2$ , so that it is at liberty to approach and recede from the cylinder face, substantially as and for the purpose herein specified.

**2,647.**—PETER V. STAATS, Raritan, N. J., assignee by mesne assignments of JOHN G. DUNHAM.—*Mowing Machine*.—Patented December 18, 1860; reissued June 11, 1867. (Division A.)

*Claim.*—First, the combination in a mowing machine of a stationary metallic axle with the portion



between the bearings of the wheels bent and a crank shaft, arranged transversely thereto, with the driving gear arranged on one side of the axle, and the crank and pitman on the other.

Second, the combination in a hinge-joint mowing machine of two driving wheels, a main frame located between the wheels, and extending both in front and rear of the main axle with a hinged or limber tongue in front, by which to draw the machine, and a caster wheel to support the back end of the frame.

Third, connecting a short laterally projecting finger beam to the inner side of the main frame by a coupling arm in the same vertical plane as the finger beam, and having two parallel joints, transverse to the beam, whereby a short coupling arm can be used, and yet either end of the cutting apparatus be free to rise or fall independent of the other.

Fourth, the combination in a mowing machine of two main carrying wheels, a main frame located between the wheels, and a laterally projecting hinged finger beam having two parallel joints in the coupling arm with a brace for drag bar, for the purpose of resisting the backward strain of the finger beam, supported at the upper end by means of the main frame in front of the inside carrying wheel.

Fifth, the combination with a short laterally projecting flexible finger beam having two parallel joints in the coupling arm at right angles to the beam of a supporting wheel attached directly to each end of and in rear of the finger beam.

**2,648.**—PETER V. STAATS, Raritan, N. J., assignee by mesne assignments of JOHN G. DUNHAM.—*Mowing Machine*.—Patented December 18, 1860; reissued June 11, 1867. (Division B.)

*Claim.*—First, the combination with a two-wheeled mowing machine having a laterally projecting cutting apparatus, hinged at its inner or heel end only, of an overhanging reel supported upon a single post.

Second, the combination with a two-wheeled mowing machine having a hinged finger beam of an overhanging reel having two ribs or beaters only, whereby I am enabled to fold the finger beam up to the main frame without removing the reel.

**2,649.**—ORIN L. BASSETT, THOMAS R. BEARSE, and WILLIAM B. WILBER, Taunton, Mass.—*Machine for Making Nails and Tacks*.—Patented October 9, 1866; reissued June 18, 1867.

*Claim.*—First, the combination of a carrier or bearer for the tack blank with any one of the cutters, be they more or less in number, used for cutting the tack blanks, when arranged so as to operate substantially in the manner and for the purpose specified.

Second, the carrier or bearer for conveying the tack blanks to the die to be headed, in combination with a forked or other suitable lever, arranged with regard to the said carrier and so as to operate upon it and with the cutter, substantially as and for the purpose described.

Third, the lever S, pivoted to either a fixed or movable fulcrum, in combination with the carrier Q, cam shaft D, forked lever Y, and cutter, substantially as described for the purpose specified.

**2,650.**—WILLIAM H. ELLIOT, Plattsburgh, N. Y.—*Revolving Fire-arm*.—Patented May 29, 1860; reissued June 18, 1867.

*Claim.*—First, a fire-arm with revolving barrels, which are bored through and chambered so as to be charged at the breech and sustained by two supports, to wit, one point of support being at the center of the breech plate, or at the rear of the breech-loading chambers, and the other forward of said chambers, such construction of barrels and supports obviating the use of a pin passing through the cluster of barrels, of sufficient strength alone to support the same, substantially as set forth.

Second, the arrangement of support *n*, in the rear of all the barrels, and support *n'*, in front of all the barrels, in combination with a series of revolving barrels, which are bored through at their rear ends, for the purpose of being charged at the breech, substantially as set forth.

Third, the employment of a hammer arranged as specified in relation to the barrels, when used independent of a breech pin or nipple, and in combination with chambers bored through at their rear ends, and with a breech plate, substantially as specified.

Fourth, the combination of a wedge or cam *j* with a fly *f* for raising the hammer, substantially as specified.

**2,651.**—JOHN PRICE and WILLIAM LEWIS, Danville, Pa.—*Fagot for Railroad Rails*.—Patented October 28, 1862; reissued June 18, 1867.

*Claim.*—A form or formed piece for a fagot to be rolled into a railroad rail with flanges forming part of the form piece, projecting downward from each side or edge thereof, and over both sides or edges of the layer or layers directly beneath it, said form piece being intended for the head or tread of the rail, and the layer or layers specified to the body thereof, substantially as and for the purpose shown and described.

Also, a railroad rail made from a fagot, constructed substantially as above set forth.

**2,652.**—ANN JANE SERGEANT, Dayton, Ohio, administratrix of the estate of ISAAC A. SERGEANT, deceased, assignor to SYLVENUS WALKER, Newark, N. J.—*Clothes Wringer*.—Patented July 27, 1858; reissued June 18, 1867. (Division 1.)

*Claim.*—First, the yoke B, provided with a suitable hitching arm, the said yoke being adapted to be temporarily attached to a wash tub or readily disconnected therefrom, as explained, and employed as a bearing for a rotary clamp for wringing clothes.

Second, in the described connection with the yoke B, the movable clamp H I J K L, and pawl and dog P O, by means of which the said clamp is retained within the yoke, or may be readily removed therefrom at will, to be cleansed or dried.

Third, in the described connection with a rotary clamp for wringing clothes, the hinged and yielding hitching arm E, for the purposes explained.

**2,653.**—JAMES H. FOY and LAVINIA H. FOY, Boston, Mass., assignees by mesne assignments of LAVINIA H. FOY.—*Corset Skirt Supporter*.—Patented September 15, 1863; reissued June 18, 1867. (Division 1.)

*Claim.*—First, the binding cloth cut bias as described, in combination with the exterior or outer edge of the rim L, to which the binding cloth is applied as specified, whereby all gathering is avoided, while a corded appearance and a case for the hoop M are produced, substantially as set forth.

Second, the combination of laced openings K K, or either of them, with the front part of the body I of a corset open in front, substantially as set forth.

Third, the body I, open in front, and adjustable both in front and the back by means of laced openings, substantially as shown and described.

Fourth, forming the curve for the hoop and corded edges O and P, for the same piece of bias cut cloth, as shown and described.

**2,654.**—JAMES H. and LAVINIA H. FOY, Boston, Mass., assignees by mesne assignments of LAVINIA H. FOY.—*Corset Skirt Supporter*.—Patented September 15, 1863; reissued June 18, 1867. (Division 2.)

*Claim.*—First, protecting and securing the ends of the stiffeners, whalebones, or springs, which are inserted in pockets in the body of corsets by means of caps *p*, the body, flange, and spurs of each of which confine the stiffener or spring in position and prevent its wearing through the fabric, substantially as set forth.

Second, protecting and securing the ends of the stiffeners, whalebones, or springs, which are inserted in pockets in the body of a corset by means of metal caps applied to the outside to prevent the said stiffeners from wearing through the fabric, substantially as described.

**2,655.**—JAMES E. A. GIBBS, Midway, Va.—*Sewing Machine*.—Patented August 10, 1858; reissued June 18, 1867.

*Claim.*—The general arrangement of a sewing machine comprising the parts whereby the sewing mechanism is brought into operative relation, substantially as herein shown and described—that is to say, combining with the vibrating needle arm a frame shaped substantially like the roman letter G, as herein shown and described and for the purposes set forth.

Also, so constructing and combining or arranging and operating a revolving hook or looper with a reciprocating needle, as that the one loop shall be taken



from the needle after the former loop shall have been drawn up, on, along, or over the needle during its advance movement, in the manner and for the purpose substantially as described.

Also, the conical sleeve or its equivalent, for holding the spool and for revolving therewith, in combination with the adjustable cones F and G, or their equivalents, for producing the requisite degree of friction upon the conical sleeve spool holder, when constructed and arranged so as to operate substantially in the manner and for the purposes herein set forth.

**2,656.**—WILLIAM SMITH, New York, N. Y.—*Weaving Corded Fabrics.*—Patented April 5, 1853; extended April 5, 1867; reissued June 18, 1867.

*Claim.*—The process herein specified of weaving, consisting in the use of stationary warps in combination with the moving warps and filling that form a fabric on each side of such stationary warps, substantially as set forth.

**2,657.**—JOSHUA G. ALLEN, Philadelphia, Pa.—*Spirit Meter.*—Patented April 2, 1867; reissued June 25, 1867.

*Claim.*—First, a meter provided with a series of sample tubes or chambers, arranged to receive and retain samples of the liquid measured, substantially as and for the purpose set forth.

Second, combining with a still two separate meters, so arranged that the high grade shall flow through one and the low grade through the other, independently of each other, as set forth.

Third, constructing the meter, or such portions of it as may be necessary, of glass or other non-oxdizable material, to protect it from injury by acids.

Fourth, the use of a graduated tube with a hydrometer placed therein, for the purpose of indicating the height of the liquid, its quality or grade, and temperature, substantially as described.

**2,658.**—W. GILLET and W. S. GILLET, Stowe, Vt.—*Mop Wringer.*—Patented November 13, 1866; reissued June 25, 1867.

*Claim.*—First, as a new article of manufacture a mop wringer composed of two plates hinged together substantially as described, for operation as set forth.

Second, in a mop wringer composed of two plates, making one of them stationary and connecting the other with it by a hinge joint or its equivalent, substantially as set forth.

Third, the combination with the stationary and movable plates of sideboards, or a frame to which the stationary plate is permanently secured, substantially as described.

Fourth, in combination with a mop wringer constructed for operation, substantially as described, the braces, or their mechanical equivalents, whereby the said wringer is or may be secured to a tub or other vessel.

Fifth, the combination with a mop wringer such as described of a footboard for steadying the tub while the wringer is being operated, said wringer and footboard being secured to the tub by braces, substantially as specified.

Sixth, a mop wringer, such as described, forming apertures in the plates for the ready expulsion from between the plates of the liquid expressed from the mop.

Seventh, a mop wringer, such as described, providing one of the plates with a handle to move it to and from the stationary plate, as and for the purposes set forth.

**2,659.**—HELEN M. REMINGTON, Springfield, Mass.—*Mincing Knife.*—Patented February 12, 1867; reissued June 25, 1867.

*Claim.*—A hand mincing knife having a shank constructed solid or in sections, and terminating in the radial curved arms *b b*, in combination with the blades *c c*, so applied to the said arms *b b* as to leave an open central space, the whole constructed and arranged substantially as described and for the purpose herein set forth.

**2,660.**—WILLIAM N. WHITELEY, JEROME FASSLER, and O. S. KELLY, Springfield, Ohio, assignees by mesne assignments of JOHN LONG.—*Harvester.*—

Patented December 29, 1857; reissued June 25, 1867. (Division A.)

*Claim.*—First, the combination in a machine having two independent driving wheels of a single drag bar flexibly connected at its front end with the main frame forward of the axis of the supporting wheels, its rear end free to rise or fall independent of said main frame, and connected with the main shoe by two joints, one forward of and the other in rear of the sickle, for the purpose of affording the cutting apparatus firm support, and permitting either end of the same to rise or fall with the undulations of the ground over which it is drawn, substantially as described.

Second, connecting the main shoe of a cutting apparatus, which has reciprocating cutters, with a single drag bar flexibly connected with the main frame at its front end, and its rear end free to rise and fall with the undulations of the ground, independent of the main frame, by means of projecting joints, one forward of and one in rear of the sickle, so as to leave a clear space between said joints and beneath said drag bar, through which the cutters' connecting rod may be reciprocated, substantially as described.

Third, the combination of the following instrumentalities in a harvesting machine, viz., two independent driving and supporting wheels, a main frame which carries the gearing, a tongue which may be made rigid or flexible, a single drag bar flexibly connected at its front end with the main frame and its rear end free to rise or fall independent of said main frame, and a cutting apparatus which has reciprocating cutters and is flexibly connected to the rear end of said drag bar, so that either end of said cutting apparatus may rise or fall with the undulations of the ground over which it is drawn, substantially as described.

Fourth, the combination in a harvesting machine, which has two driving and supporting wheels, and a cutting apparatus, which has reciprocating cutters, of a single drag bar vibrating vertically upon a joint at its front end, and flexibly connected at its rear end with said cutting apparatus, and a vertically slotted retaining link or plate to prevent any lateral movement of rear end of said drag bar, and to limit its vibrations downward so as to support the weight of the cutting apparatus when folded upon the machine for transportation, substantially as set forth.

**2,661.**—WILLIAM N. WHITELEY, JEROME FASSLER, and O. S. KELLY, Springfield, Ohio, assignees by mesne assignments of JOHN LONG.—*Harvester.*—Patented December 29, 1857; reissued June 25, 1867. (Division B.)

*Claim.*—First, the combination of the adjustable easter wheel H' and outer shoe of the cutting apparatus, when said wheel is directly connected with said shoe, substantially for the purpose set forth.

Second, the combination of the adjustable easter wheel H', attached to the outer shoe, with the flexible track-clearing apparatus, connected to said shoe inside of said easter wheel, substantially as shown and described.

Third, in combination with the flexible cutting apparatus the two easter wheels C' and H', arranged and supporting said cutting apparatus independent of the main frame, substantially as described.

Fourth, supporting the heel of the drag bar by the easter wheel connected thereto, substantially as described.

Fifth, the combination, in a harvesting machine which has two supporting wheels, a drag bar flexibly connected at its front end with the main frame, and at its rear end jointed to a cutting apparatus which has cutters reciprocated in straight lines, and is free to rise or fall at either end with the undulations of the ground over which it is drawn, independent of the main frame, of an adjustable easter wheel to support the rear end of said main frame when the cutting apparatus is folded for transportation, and a tongue which may be made rigid or flexible, by which the machine may be drawn forward, substantially as set forth.

Sixth, giving the cutter bar a reciprocating motion by two cam wheels J and K, in combination with the reciprocating and rotating connecting rod M, the whole being constructed and arranged in the manner and for the purpose set forth.



**2,662.**—NEW ENGLAND VULCANITE HIDE COMPANY, Boston, Mass., assignees of WILLIAM H. TOWERS.—*Preparing Hides and other Animal Tissues for the Manufacture of Various Articles.*—Patented August 26, 1866; reissued June 25, 1867.

*Claim.*—The treatment, substantially as described, of animal tissue of any description, or its component elements, fibrine and albumen, or their modifications, gelatine, such animal tissues including raw hide and leather partially or wholly tanned, by combining the same with sulphur, or any combination of or equivalent to sulphur, for the purpose of producing the compound or the effects before described.

**2,663.**—WILLIAM PERRY, North Bridgewater, Mass.—*Steam Digester for Treating Bones, Fish, and other Substances.*—Patented February 26, 1867; reissued June 25, 1867.

*Claim.*—First, a steam digester for treating bones, fish, bark, &c., which is made and operated substantially as herein shown and described.

Second, the combination of the suspended retort or digester A and the hinged steam caps *d d'* on the charging and discharging openings, substantially arranged and employed as and for the purposes herein described.

Third, the stopper *m* and the diaphragm *n*, in combination with the discharging eap *d'* and the ejection pipe *p*, arranged and operating substantially as and for the purposes specified.

Fourth, the steam-tight couplings *c* and *c'* on the pipes *b* and *p*, respectively, in combination with the suspended retort A, for disconnection therewith, as and for the purposes herein described.

**2,664.**—HARVEY L. HOPKINS, Eaton, N. Y.—*Harvester.*—Patented December 17, 1861; reissued July 2, 1867.

*Claim.*—First, combining with the frame of a harvester a finger bar, which may be turned horizontally upon its pivoted connection from one side of the frame to the opposite side, substantially as described.

Second, combining with said finger bar and elevating and supporting apparatus, so arranged as to perform the same service, whether the finger bar projects to the right or left of the main frame, substantially as represented and described.

Third, a reversible pole or tongue for the purpose of drawing the machine in either direction, substantially as described.

Fourth, a driver's seat which may be reversed to accommodate the operator, substantially as and for the purpose set forth.

**2,665.**—J. B. PALSER and GARDNER HOWLAND, Fort Edward, N. Y.—*Manufacture of Paper Pulp.*—Patented November 22, 1859; reissued July 2, 1867.

*Claim.*—The boiling of straw or other paper stock in a caustic alkaline solution of any desirable strength, according to the refractory character of the stock being treated, at a temperature indicated by an internal pressure due to heat, making 110 pounds to 130 pounds pressure to the square inch, substantially in the manner and for the purpose described.

**2,666.**—GEORGE A. PRINCE, CHARLES E. BACON, and C. F. S. THOMAS, Buffalo, N. Y., assignees by mesne assignments of THOMAS F. THORNTON.—*Swell for Melodeons.*—Patented May 22, 1855; reissued July 2, 1867.

*Claim.*—So constructing and operating the swell valve of melodeons and other reed musical instruments that a part of the valve may be opened in a manner to uncover and permit a free escape of the sound from only a part of the notes, while other portions of the notes remain covered by other portions of the valve, for the purposes and substantially as described.

**2,667.**—A. C. TEEL, Girard, Ill.—*Farm Gate.*—Patented December 1, 1863; reissued July 2, 1867.

*Claim.*—First, the hanging or suspending of a gate in such a manner that it will have a combined sliding and swinging movement in the opening and closing of the same, the gate sliding from a closed position or state to a central balanced state, and then swinging while in a state of equipoise to an open position, and closing from an open position by swinging around in

line with the gate posts and sliding to a closed state, substantially as shown and described.

Second, the placing of the gate posts C' D C' D' in such a relative position with each other, and constructing and hanging the gate between them to admit of the opening and closing of the gate, substantially as herein set forth.

**2,668.**—RICHARD MONTGOMERY, New York, N. Y.—*Sheet-metal Beam.*—Patented July 12, 1853; reissued July 2, 1867.

*Claim.*—A beam formed of sheet metal bent into a series of longitudinal folds, the sides of which are flat and parallel and the tops and bottoms uninverted and inverted arches, respectively.

Also, the combination with such beam of a pair of saddles to support its ends, substantially as herein set forth.

**2,669.**—VALENTINE FOGERTY, West Roxbury, ROYAL E. ROBBINS, and FRANK W. ANDREWS, Boston Mass., assignees by mesne assignments of VALENTINE FOGERTY.—*Magazine Fire-arm.*—Patented February 21, 1865; reissued July 9, 1867.

*Claim.*—For use in a breech-loading fire-arm a divided or notched magazine or cartridge-receiving tube, constructed to operate substantially as set forth.

**2,670.**—HERVEY LAW, New York, N. Y.—*Machine for Cutting Paper.*—Patented September 16, 1856; reissued July 9, 1867.

*Claim.*—The combination of the rising and falling platform C, the clamp frame E, operating to clamp the paper or book as the platform rises, and to unclamp the same as the platform descends, by means of two double cams or toggles F F, having cranks G G connected with them, the pintles of which work in curved grooves or otherwise actuated by any well-known mechanical device, substantially as and for the purpose set forth.

**2,671.**—SAMUEL RICHARDS, Philadelphia, Pa.—*Snow Plow.*—Patented April 13, 1858; reissued July 9, 1867.

*Claim.*—First, the long inclined plane for raising the snow gradually mounted upon two swiveling trucks with the lateral acting wedge elevated above the level of the surrounding snow, and located on one side of the inclined plane in the position shown in Figure 1, for discharging the snow on double track roads.

Second, the inclined plane for raising the snow arranged so as to be adjustable up and down the plane and from side to side, substantially as described.

**2,672.**—SAMUEL RICHARDS, Philadelphia, Pa.—*Snow Plow.*—Patented May 13, 1856; reissued July 9, 1867.

*Claim.*—First, the combination of a long inclined plane B, mounted upon two swiveling trucks, the wedge piece F mounted upon said inclined plane with the point located above the level of the surrounding snow, so that the snow shall be elevated gradually by the plane B, at or near the level of the surrounding snow before it is pressed laterally by the wedge.

Second, the wedge piece F, so arranged as to be movable up and down the inclined plane.

**2,673.**—F. O. TUCKER and W. W. TUCKER, West Meriden, Conn., assignees by mesne assignments of themselves.—*Toy Top.*—Patented June 12, 1866; reissued July 9, 1867.

*Claim.*—The combination of the whirling spindle F with the two cords L and P, when they are constructed, arranged, and fitted for spinning or whirling the tops, substantially as herein described and set forth.

**2,674.**—HENRY D. WARD and WILLIAM A. RICHARDSON, Worcester, Mass., assignees by mesne assignments of A. W. GIFFORD.—*Scissors Sharpener.*—Patented February 12, 1867; reissued July 9, 1867.

*Claim.*—A scissors sharpener constructed substantially as described, of a serrated bar or file B, in combination with and arranged between sides or guides D C of a frame or holder, for use as specified.



**2,675.**—HENRY WATERMAN, Hudson, N. Y.—*Safety Valve*.—Patented November 15, 1853; reissued July 9, 1867.

*Claim.*—First, the piston F attached to the weighted end of the valve lever within the cylinder G, and immersed in the liquid in the cylinder, combined, operating in the manner and for the purpose herein described.

Second, the concentric rim or ledge *l l*, and the overhanging part of valve *k k*, constructed, combined, and operating in the manner and for the purpose herein set forth.

**2,676.**—JOEL WHITNEY, Winchester, Mass.—*Wood-planing Machine*.—Patented April 13, 1852; extended April 13, 1866; reissued July 9, 1867.

*Claim.*—First, in combination with a pair of feed rolls, one of which is yielding and the other is not, a pair of intermediate gears, one of which is fixed and the other is not, substantially as and for the purpose described.

Second, in combination with a pair of feed rollers, geared and driven from both of their ends, and the duplicate sets of intermediate gears working in and with them, the connecting of said intermediate or driving gears by substantial shafts extending clear across from one set to the opposite set, by which the lifting and driving is done at both ends of the rolls, and the twisting, bending, or straining of journals or bearings avoided, substantially as described.

**2,677.**—GEORGE L. GERARD, New Haven, Conn.—*Bed Bottom*.—Patented March 26, 1867; reissued July 9, 1867.

*Claim.*—The combination of the clamp bolt D with the spring A and the bar C, constructed so as to operate in the manner described.

**2,678.**—THOMAS S. WILLIAMS and P. S. PAGE, Boston, Mass.—*Lamp*.—Patented May 19, 1863; reissued July 9, 1867.

*Claim.*—First, the case or socket A, in combination with a railroad car lamp or lamp fountain C, substantially as and for the purpose specified.

Second, the springs B, or equivalent guides or bearings, arranged between the lamp or lamp fountain and attached to either, substantially as and for the purpose set forth.

Third, projections *c*, arranged in the case or socket A, substantially as and for the purpose specified.

**2,679.**—CHARLES N. BROCK, Philadelphia, Pa.—*Cleaning and Purifying Bone Black*.—Patented July 2, 1861; reissued July 16, 1867.

*Claim.*—First, cleaning and purifying bone black by the application of a current of air, substantially as herein described.

Second, the combination of the perforated receiving vessel A and diaphragm or screen E with the supply pipe or vessel D, the air pipe B, and fan C, substantially in the manner and for the purpose herein shown and described.

Third, the screen F, in combination with the receiving vessel A, for separating and removing the fine dust from bone black by means of a current of air, substantially as herein described.

**2,680.**—JOHN CARTON, Utica, N. Y., assignee of JOHN STUBER.—*Locomotive Head Light*.—Patented May 20, 1856; reissued July 16, 1867.

*Claim.*—First, in a lamp having a cylindrical wick the outer cylinder M, in combination with the button P.

Second, in a lamp having a cylindrical wick the outer cylinder M and button P, in combination with the cap or deflector N.

Third, in a lamp having a cylindrical wick the outer cylinder M and deflector N, in combination with the chimney gallery O.

**2,681.**—CHARLES C. GARRETT, Dayton, Ala.—*Corn and Cotton Seed Planter*.—Patented March 12, 1867; reissued July 16, 1867.

*Claim.*—First, the stirrup lever R, connected to the side plates A\*, so that they may be raised and lowered, substantially as and for the purposes herein described.

Second, the stirrup lever R and its connections

with the side plates A\*, in combination with the lever O, for the purposes and substantially as described.

Third, the harrow C<sup>2</sup> and its means of attachment to the springs D<sup>2</sup> D<sup>2</sup>, in connection with the seed planter, when constructed in the manner and for the purposes substantially as described.

Fourth, the box K, provided with the slide valve L operated by the pintles *i* in the gear wheel E, and the levers M N, all arranged substantially as set forth.

Fifth, the seed hopper *c* and cylinder *b*, when applied to and used in connection with a cotton seed planter, substantially as and for the purpose specified.

Sixth, the attaching of the bearer springs D<sup>2</sup> to the frame of the device, in the manner described or in any equivalent way to admit of the adjustment of said springs, substantially as and for the purpose set forth.

**2,682.**—FLORIAN GROSJEAN, New York, N. Y.—*Spoon and Fork*.—Patented January 28, 1862; reissued July 7, 1863; again reissued July 12, 1864; and again reissued July 16, 1867.

*Claim.*—A sheet-metal handle, having a central corrugation or hollow ridge which extends along the narrow part of the said handle and vanishes into the broad portion or palm thereof by tapering sidewise and flatwise, substantially as before set forth.

Also, a sheet-metal handle, having a central corrugation or hollow ridge which extends along the narrow part of the handle and vanishes into the bowl, or its substitute, by tapering sidewise and flatwise, substantially as before set forth.

Also, a sheet-metal handle, having two lateral hollow beads or corrugations which extend, with a space between them, longitudinally along the narrow part of the handle into the palm thereof, substantially as before set forth.

Also, a sheet-metal handle, having the central hollow ridge combined with the lateral hollow beads, substantially as before set forth.

**2,683.**—D. J. NOBLE, New Boston, Ill.—*Cultivator*.—Patented March 20, 1866; reissued July 16, 1867.

*Claim.*—First, the combination of the adjustable plow beams E with a stationary frame A and a device whereby said beams may be locked rigidly at any desired height, substantially as and for the purposes specified.

Second, the levers H H, pivoted to the frame A and arranged relatively with the plow frame E, as herein specified, in combination with the notched plates I I, when all are constructed and operate substantially as and for the purposes set forth.

**2,684.**—WILLIAM L. POTTER, Newark, N. J.—*Composition for Roofing and for other Purposes*.—Patented February 21, 1865; reissued July 16, 1867.

*Claim.*—The use of the above-described rock, as and for the purposes specified.

**2,685.**—C. C. BELLOWS, New Ipswich, N. H.—*Creasing, Slicking, and Skiving Leather*.—Patented October 23, 1866; reissued July 16, 1867.

*Claim.*—First, the combination of the slotted standards B, slotted triple-armed lever E, springs I, and rods G arranged to operate with the roller D, when constructed and applied in the manner and for the purpose specified.

Second, the plate J, having skiving knives *d* attached to or formed on it, and applied to the upper roller C by means of the bars or clamp frame, substantially as and for the purpose described.

Third, the lateral adjustable creasing wheel F on the upper roller shaft, operating with the flanged roller G, substantially as described for the purposes specified.

Fourth, the combination and arrangement of two rollers of equal or unequal diameter and connected by gears of equal or unequal diameter with the creasing wheel F and flanged roller G, substantially as and for the purposes set forth.

**2,686.**—JOHN BROUGHTON, New York, N. Y.—*Oiler*.—Patented March 6, 1866; reissued July 16, 1867.

*Claim.*—First, an oiler, having a rigid exterior inclosing or containing an auxiliary yielding or spring bottom, which is compressed or operated through a



suitable opening in the said rigid exterior, substantially as set forth.

Second, combining with the yielding or spring bottom of an oiler a rigid or inflexible exterior, whose lower part is rounded or made to approximate in shape to a semi-sphere to form a rolling surface, and is provided with an opening through which the yielding or spring bottom can be operated, substantially as set forth.

Third, the combination in an oiler of a rigid exterior, an internal yielding or spring bottom, and a compressing thumb piece, substantially as set forth.

Fourth, combining with the yielding or spring bottom of an oiler, a stop, applied in such a manner that such yielding part cannot be compressed beyond the limits of its elasticity, when said stop is applied and operated externally thereto, substantially as set forth.

Fifth, in oilers, provided with yielding or spring bottoms, forming the sides of the reservoir and such yielding or spring bottom of one piece, substantially as set forth.

Sixth, combining with the tube or nozzle and cover of an oiler, a reservoir, the sides and yielding or spring bottom of which are formed in one piece, without joint or seam, substantially as set forth.

Seventh, combining with the reservoir of an oiler, the yielding or spring bottom and the sides of which are formed of one piece, a rigid exterior or shell provided with a suitable opening through which the yielding part can be compressed and operated, substantially as set forth.

**2,687.**—ALBERT HALLOWELL and H. R. BARKER, Lowell, Mass.—*Steam Cock*.—Patented November 28, 1865; reissued July 16, 1867.

*Claim.*—First, in a stop-cock in which the valve stem is operated by a valve key connected with a hand wheel, the arrangement of a ground joint *e f*, the male part *e* being constructed upon the key *E*, and the seat or female part in the cap *F* of the valve case *G*, substantially as set forth.

Second, the construction of the key pieces *E* with its valve-like portion *e*, with reference to the seat *f* in the cap *F*, and the combination of the valve stem *b* and key piece *E*, with a male and female screw thread whereby to operate the valve *A*, substantially as set forth.

Third, the arrangement of the hand wheel *I*, tube *H*, the screw *h*, nut *i*, key *E*, and cap *F*, applied to the case *G*, in combination with the ground joint *e f*, substantially as described.

Fourth, the arrangement of the annular groove *K*, with the ground joint and key *E* and cap *F*, combined with the valve and its case, substantially as described.

**2,688.**—DANIEL E. PARIS, Troy, N. Y., assignee of JAMES R. HYDE.—*Cooking Stove*.—Patented March 24, 1863; reissued July 16, 1867.

*Claim.*—First, attaching or supporting a reservoir situated in rear of a diving fire cooking stove, to or by the rear part or end of the top plate of the stoves, as and for the purposes herein set forth.

Second, so attaching the reservoir to the rear end of the top plate of the stove that its cover, or pieces that form its cover, shall be nearly level with the top surface of the stove, thus practically forming an extension thereof, as and for the purposes herein set forth.

Third, the hot-air chamber between the front of the reservoir and the back plate of the stove closely covered by the top of the reservoir or the top plate of the stove, or both together.

**2,689.**—PHILIP KEENAN and EDWARD O. CONNOR, Brownstown, Pa.—*Puddling Furnace*.—Patented November 14, 1865; antedated August 26, 1865; reissued January 23, 1866, and again reissued July 16, 1867.

*Claim.*—The use of pulverized ore and water in combination with the fire clay when used for "fix" in the preparation of furnaces used for puddling or boiling in the manufacture of iron as herein described and set forth.

**2,690.**—HUGH McDONALD, Pittsburg, Pa.—*Fix for Puddling Furnaces*.—Patented October 17, 1865; reissued January 23, 1866, and again reissued July 16, 1867.

*Claim.*—The use of pulverized iron ore as a fix for puddling or boiling furnaces when mixed into a pasty mass with water or other suitable liquid.

Also, pulverized iron ore combined with carbonaceous matter and made into a pasty or adhesive mass, and used as a fixing for puddling or boiling furnaces.

**2,691.**—GEORGE W. SCOLLAY, St. Louis, Mo.—*Embalming Dead Bodies and Carcasses*.—Patented January 22, 1867; antedated January 19, 1867; reissued July 16, 1867.

*Claim.*—First, embalming dead bodies and carcasses and preserving them from putrefaction by introducing antiseptic gas or gases into the arterial or vascular system, substantially as described.

Second, embalming dead bodies and carcasses, or preserving them from putrefaction by the introduction of antiseptic gas or gases into the bowels, stomach, or lungs, substantially as set forth.

Third, embalming dead bodies or carcasses or preserving them from putrefaction by combining the internal and external application of the gases thereto, substantially in the manner described.

**2,692.**—HORATIO ALLEN, New York, N. Y.—*Car Seat and Couch*.—Patented June 12, 1866; reissued July 23, 1867.

*Claim.*—First, the combination with the floor and sides of a railroad passenger car of couches of a rhomboid form, placed diagonally to the length of the car, as herein described, and constructed of two seat pieces *A A'*, two corner pieces *E E'*, and two central posts *F F'*, and supported by frames and legs; said couches being convertible into a pair of seats by putting out of the way the two corner pieces *E E'*, and securing in a vertical position the center pieces *F F'* by the cap pieces *G*, said pair of seats having a relative position diagonal to the length of the car, all substantially in the manner and for the purpose herein described.

Second, the combination with the seat herein described, and uses of a railroad passenger car, of upper couches of rhomboidal form placed diagonally to the length of the car as herein described, and constructed of a frame supported as herein described, all substantially in the manner and for the purpose herein described.

Third, the diagonal combination and construction of the two seats in the pairs of passenger seats in railroad cars, substantially in the manner and for the purpose herein described.

**2,693.**—THOMAS BRETT, Geneva, Ohio.—*Harvester*.—Patented November 17, 1863; reissued July 23, 1867.

*Claim.*—First, so arranging the seat of harvesters that it may have a lateral movement upon a suitable frame or ways, in combination with one or more springs acting in concert with said seat, for the purpose specified.

Second, the frame *A* attached to the harvester, in combination with the plate *B* and spring *D D*, all arranged to operate in the manner substantially as and for the purpose herein set forth.

**2,694.**—ADAM R. REESE, Phillipsburg, N. J., assignee of NATHAN MARTZ.—*Horse Rake*.—Patented February 26, 1856; reissued July 23, 1867.

*Claim.*—First, the combination in a two-wheeled wire-tooth horse rake of a rock shaft to support the rake teeth located between the wheels and within their periphery, with a foot lever and a hand lever to raise and lower the teeth, and a seat to support the driver while operating the levers.

Second, supporting the upper ends of the wire teeth of a two-wheeled horse rake by an iron rock shaft or rod, arranged parallel to the axle, or nearly so, within the periphery of the wheels.

Third, in combination with a two-wheeled horse rake having a stationary axle a support for the teeth located within the periphery of the wheels, a seat for the driver, and a hand lever and a foot lever by which to raise or lower the teeth.

Fourth, the combination with the rake teeth of two bars, arranged within the periphery of the wheels and parallel to each other, (one to sustain the teeth against backward strain, while the other keeps them the proper distance apart,) a lever to raise or lower



the teeth, and a driver's seat, from which the lever is operated.

Fifth, in combination with a two-wheeled wire-tooth horse rake the support for the teeth located within the periphery of the wheels, the lever to raise or lower the teeth, the seat for the driver, from which the lever is operated, and the springs S', arranged and operating substantially as described, to assist in holding the teeth to the ground.

Sixth, in combination with a two-wheeled wire-tooth horse rake a driver's seat, a hand lever by which the driver, while in his seat, can raise or lower the teeth, and a rock shaft independent of the axle to support the teeth, each being located between the wheels and within their periphery.

Seventh, in combination with a two-wheeled wire-tooth horse rake, having the upper end of the teeth attached to a rock shaft located between the wheels and within their periphery, a driver's seat and foot lever to raise or lower the teeth.

**2,695.**—E. M. BOYNTON, Grand Rapids, Mich., assignee of ALFRED BOYNTON.—*Saw*.—Patented November 27, 1866; reissued July 23, 1867.

*Claim.*—A saw provided with the cutting teeth A and the clearing teeth B, constructed and arranged substantially as described.

**2,696.**—JOHN A. GOEWY, D. S. WOOD, Albany, N. Y., and JOSEPH JONES, West Albany, N. Y., assignees by mesne assignments of WILLIAM D. GOODNOW.—*Car Brake*.—Patented October 18, 1864; reissued July 23, 1867.

*Claim.*—First, connecting the brake ears F F to horizontal guide bars affixed to the truck, substantially as and for the purposes set forth.

Second, in combination with the horizontal guide bars k k the spiral springs H, to repel the brakes from the face of the wheels, substantially as set forth.

Third, in combination with the plank or haug frame E of the car body and the brake ears F F the guide and safety rods k k, arranged and operating substantially as and for the purposes set forth.

Fourth, the combination of the brake bars F F, levers G G', connecting bar N, springs H H, and chains m o with the truck wheels B B, arranged and operating substantially in the manner and for the purposes shown and described.

**2,697.**—WILLIAM LEWIS, JOHN PRICE, and FRANCIS NAYLOR, Danville, Pa.—*Fagot for Railway Rails*.—Patented July 19, 1864; reissued July 23, 1867.

*Claim.*—First, the corrugated steel slabs or form pieces A A' for fagots for railroad rails.

Second, forming the piles for the manufacture of steel-faced rails by the combination of iron bars with facing slabs of cast-steel, provided with intermediate projections on their inner surfaces, for the purpose of facilitating the welding of the steel to the iron, substantially as set forth.

**2,698.**—JOHN B. RYAN, Cincinnati, Ohio, assignee of CALVIN DODGE.—*Fireplace*.—Patented March 18, 1856; reissued July 23, 1867.

*Claim.*—First, the use of a deep recess or fire chamber placed back of the fire basket of the grate and out of the reach of the draft, in combination with the horizontal covering over the recess and fire basket extending down below the mouth of the chimney, constructed and arranged substantially as heretofore described, for the purpose of consuming the smoke and causing the ignition of the gas, which would otherwise be lost, and thus increasing the amount of heat thrown into the room, and by the slow combustion of the fire effecting a great saving of fuel.

Second, the arrangement in a fireplace above the grate of a reverberating covering F, extending forward from the rear wall of the fire chamber to a point below the breast of the chimney, and employed to retard the products of combustion and direct the heat into the room, substantially as described.

**2,699.**—H. H. WELCH, Athens, Ohio.—*Fireplace Heater*.—Patented August 8, 1865; reissued July 23, 1867.

*Claim.*—As a new article of manufacture the fireplace heater A, constructed as herein described;

that is to say, with the projections or corrugations D E and pipes B C, for the purpose explained.

**2,700.**—METROPOLITAN WASHING MACHINE COMPANY, Middlefield, Conn., assignee by mesne assignments of C. A. FOSTER.—*Meat Chopper*.—Patented June 5, 1866; reissued July 23, 1867.

*Claim.*—First, the combination, in a meat-chopping machine with a vibratory cutter or cutters having a descending and transverse stroke, of a tub and mechanism for rotating the same intermittently, i. e., during the intervals between the strokes, or while the cutter or cutters are lifted off the bottom off the tub.

Second, forming the frame in two parts: one stationary, the other movable, the two being connected together by a horizontal hinge joint, or its mechanical equivalent.

Third, in a meat chopper frame composed of two parts, united by a hinge joint, as described, the combination with the movable part thereof of the vibratory cutters and such appurtenances of the machine as overhang or are held within the tub, so that the said cutters and appurtenances may be bodily lifted out of the tub, as and for the purposes described.

Fourth, the combination with the stationary and movable frames of the locking device.

**2,701.**—DAVID HAMMOND and W. R. REEVES, Canton, Ohio.—*Bridge*.—Patented June 21, 1864; reissued July 30, 1867.

*Claim.*—First, the arch A, constructed of the side pieces a a, top piece b, clamping pieces c c and n n, bolts d d, nuts e e, the whole combined substantially as herein specified.

Second, the combination of the arch A, constructed as hereinbefore specified, the string pieces D D, suspension rods B B, diagonal brace C C, and shoes E E, substantially as herein set forth.

**2,702.**—E. P. RUSSELL, Manlius, N. Y.—*Casting the Driving Wheels of Horse Powers, Harvesters, &c.*—Patented August 15, 1865; reissued July 30, 1867.

*Claim.*—First, placing the pulley pins of driving wheels in the sand or mold by means of a model driving wheel so as to secure equidistance between the pins, substantially as and for the purposes specified.

Second, the combination of the driving wheel A, the pin C, and the friction roller B, constructed in the manner and arranged substantially as described.

**2,703.**—FREDERICK VOLKMANN, Hoboken, N. J., assignee of BRUNO VOLKMANN.—*Plow*.—Patented November 27, 1866; reissued July 30, 1867.

*Claim.*—First, a plow cart that is made and operating substantially as and for the purpose herein shown and described.

Second, the device for raising and lowering the front end of the plow beam L, by means of the screw shaft I, (fitted in the axle D, and sliding block b,) the nut c, and plate f, balance bar e, links g and n, all made and operating substantially as herein shown and described.

Third, the adjustable links n, when so made by the application of a set screw n', substantially as and for the purpose herein shown and described.

Fourth, the draft chain K, attached to the underside of the plow beam and to the landside of the same, or, in other words, to the lower left-hand edge of the same, substantially as and for the purpose herein shown and described.

Fifth, the perforated axle D', in combination with the frame B A E, and sliding block b, for the purpose of allowing the lateral adjustment of the screw shaft I, (or its equivalent,) substantially as and for the purpose herein shown and described.

Sixth, the manner herein shown and described of adjustably securing the draft bar G to the plow cart by means of the perforated axle D', bolt h, and semi-circular front plate D, and pin or set screw S, all made and operating substantially as herein shown and described.

Seventh, in combination with the device for adjusting the plow beam up and down the wheel F of the cart, when so arranged that by its adjustment the axle of the cart can be sunk more or less, as set forth.

Eighth, hanging the front end of the plow beam directly to the screw shaft I by means of links g g,



balance bar *e*, and nut *c*, all made and operating substantially as herein shown and described.

Ninth, the draft chain *K*, when secured to the plow in the manner described, in combination with the laterally as well as obliquely adjustable draft bar *G*, as set forth.

**2,704.**—WILLIAM N. WHITELEY, JEROME FASSLER, and OLIVER S. KELLEY, Springfield, Ohio.—*Cider Mill*.—Patented December 15, 1863; reissued July 30, 1867.

*Claim.*—First, the press beam *B*, constructed with the lugs *G G* upon its lower part and at a distance from its ends, as and for the purpose shown and described.

Second, the arrangement of the posts *A A*, press beam *B*, girder *C*, rails *E E*, post *F*, and platform *I*, to form the frame of a combined grinding and pressing fruit mill, as set forth and described.

**2,705.**—WILLIAM B. BATES, Mansfield, Mass., administrator of the estate of GEORGE WELLMAN.—*Stripping Top Flats in Carding Machines*.—Patented March 18, 1856; antedated November 25, 1853; reissued July 30, 1867.

*Claim.*—First, the combination of the segmental gear and its set rim or locking plate with the pinion and its locking plate or recess, as a device for imparting an intermittent rotation to mechanism from a continuous one, for the purpose of operating the stripping mechanism, or that which moves the cleansing frame from one top card to another, substantially as described.

Second, the combination of the said device for producing intermittent rotation with the mechanism that lifts, strips, and lowers the top card to another, substantially as described.

Third, the combination of the said device for producing intermittent rotation with the mechanism that moves the cleansing frame from one top card to another, substantially as described.

Fourth, combining and arranging the segmental gear and its set rim or locking plate with the two pinions, each with its locking plate or recess, placed on opposite sides of said segmental gear, so as to operate the stripping apparatus and move the cleansing frame alternately, substantially as described.

Fifth, the combination and arrangement of the mangle pins or teeth in the arc of a circle directly attached to the cleansing frame and concentric with its movements, for the purpose of avoiding intermittent gearing, substantially as described.

Sixth, mounting the stripper card upon radial arms that have their centers or axes below the stripper card and near the axis of the cleansing frame, substantially as described.

Seventh, the combination of the cams *X X* with the levers *Y Y*, carrying and operating the stripper card, substantially as described.

Eighth, the combination of the cams *X X* with the lifting rods *Z Z* and the levers *Y Y*, arranged to operate in connection, substantially as described.

Ninth, the combination of the cams *X X* with the chain belts *Q'*, the chain pulleys *R'*, and shaft *M*, arranged and operating substantially as described.

Tenth, the combination of the guide *E'* on the cleansing frame with the stationary guide *D'*, on the frame of the machine, co-operating substantially as described.

Eleventh, the combination of the springs *F'* and the pins *E'* and lifting rods *Z*, and their application to the frame *S*, substantially as described.

Twelfth, the mechanism for cleansing the stripper card, arranged and applied substantially as described.

**2,706.**—WILLIAM B. BATES, Mansfield, Mass., administrator of the estate of GEORGE WELLMAN.—*Stripping Top Flats for Carding Machines*.—Patented December 6, 1853; reissued July 30, 1867.

*Claim.*—First, the combination and arrangement of a continuously revolving radial arm and pin, or crank pin, and a circular locking plate connected therewith, with a series of intermittently revolving radial working grooves to receive said pin, connected with a locking plate provided with segmental recesses corresponding to said grooves and to the other locking plate, substantially as described.

Second, combining with the cleansing frame a mangle gear and the mechanism herein described for

imparting an intermittent motion to the same suitably arranged, by which the cleansing frame is moved from one top card to another in any order desired in both directions, and held at rest while the cleansing operation is performed, substantially as described.

Third, so combining and arranging the cleansing frame, the mangle gear and pinion, and mechanism for giving it intermittent motion, when the motion of the cleansing frame is from one top card to the next but one, that when the pinion passes around the extremity of the series of pins or teeth of the mangle gear to the opposite side of the same, the distance of the point from where the pinion starts to where it stops on the mangle gear will correspond to the movement of the cleansing frame from one top card to that next to it, and thus shift the order of cleansing the top cards when the frame is moving in opposite directions, substantially as described.

Fourth, attaching the stripping card to radial arms so arranged that by the oscillation of said arms the stripping card will be carried beneath the raised top card to cleanse the same, substantially as described.

Fifth, forming the working faces of the cams that raise the top cards in separate and detached segments, placed so as to act in succession in combination with a series of projections or working surfaces on the device that raises the top cards, substantially as described.

Sixth, the combination and arrangement of the several correspondent parts of mechanism, both new and old, so as to form a complete apparatus by which the top cards of a carding machine may be automatically stripped or cleansed, substantially as described.

**2,707.**—ZENAS KING, Cleveland, Ohio, for himself and as assignee of P. M. FREES.—*Bridge*.—Patented October 1, 1861; reissued July 30, 1867.

*Claim.*—First, viz: the construction and arrangement of the arch when the same increases gradually in its vertical and lateral dimensions from the ends *A' A''* of the arch to its center or crown, substantially as and for the purpose set forth.

Second, the construction and arrangement of the arched or curved stay plates or channel irons in combination with arched bridges, for the purpose specified.

**2,708.**—ALEXANDER MACKEY, New York, N. Y.—*Centrifugal Sugar Machine*.—Patented June 18, 1867; reissued July 30, 1867.

*Claim.*—First, the combination with the centrifugal cylinder of a distributor arranged within but detached from the said cylinder, substantially as and for the purpose herein set forth.

Second, the distributor *C*, constructed essentially as shown, in combination with the centrifugal cylinder *B*, and arranged in relation thereto, substantially as and for the purpose herein set forth.

**2,709.**—DANIEL E. PARIS, Troy, N. Y., assignee by mesne assignments of JAMES R. HYDE.—*Cooking Stove*.—Patented June 10, 1862; reissued July 30, 1867.

*Claim.*—First, a reservoir thus situated and constructed with a concave front next adjoining said rear flues, the back of which latter shall be of a similar and conforming shape, for the purpose set forth and herein explained.

Second, bolting or fastening the reservoir to the upright plate of the stove, substantially as here shown and described.

**2,710.**—SYLVESTER E. AMENT, Oswego, Ill.—*Horse Rake*.—Patented February 9, 1864; reissued July 26, 1864; and again reissued August 6, 1867.

*Claim.*—First, the metallic bearing girdle *D*, adapted to be fixed upon the shaft *A* of a revolving rake *A a*, substantially as and for the purpose herein set forth.

Second, forming the metallic bearing girdle *D* of two halves, and applying it to the shaft *A* by means of lugs and bolts, substantially as and for the purpose herein set forth.

Third, the metallic bearing girdle *D*, provided with one or more pairs of radial or perpendicular faces *W Y*, erected, formed, or fixed therein or upon, substantially as and for the purpose herein set forth.

Fourth, in combination with a single handle revolving rake *A a a E*, when its locking devices do not



depend upon the teeth for resistances, except uniformly upon the whole through the medium of the shaft A, the employment of one or more pairs of reversed faces W Y, arranged within the same cylindrical but separate vertical planes, substantially as and for the purpose herein set forth.

Fifth, in combination with a single-handed revolving rake A a a E, when its locking devices do not depend upon the teeth for resistances, except uniformly upon the whole through the medium of the shaft A, the employment of one or more pairs of reversed faces W Y, arranged relative to bolts I and J, or their equivalents, substantially as and for the purpose herein set forth.

Sixth, the employment of the sectional eccentric peripheries of the flanges 1 and 2, arranged relative to bolts I and J, and to one or more pairs of reversed faces W Y, substantially as and for the purpose herein set forth.

Seventh, in combination with a single-handed revolving rake A a a E, when its locking devices do not depend upon the teeth for resistances, except uniformly upon the whole through the medium of the shaft A, the employment of two locks, each operating independently of the other, substantially as and for the purpose herein set forth.

Eighth, the metallic brush or saddle F, formed with side cheeks F<sup>1</sup> F<sup>2</sup>, and with notches or holes f<sup>1</sup> f<sup>2</sup>, and adapted to serve in connection with the handle E, and with sliding bolts I and J, substantially in the manner and for the purpose herein set forth.

Ninth, bracing the two series of teeth by the employment of two series of braces P P, arranged to form an additional direct connection from the shaft A to the teeth a a, substantially as and for the purpose herein set forth.

**2,711.**—EDMUND BIGELOW, Springfield, Mass.—*Soda Water Apparatus*.—Patented January 25, 1859; reissued August 6, 1867.

*Claim.*—First, the combination of the conduit through which the mineral waters are drawn, and the sirup cans with the ice reservoirs all in one stand or caster, substantially as and for the purpose described.

Second, an air vent in or connected with the valve stem of a measuring faucet as above set forth, or in any manner substantially the same.

Third, in combination with a sirup caster, substantially as herein described, a measuring faucet, or its equivalent, so made that when the discharge port is opened the supply port is closed by proper plug or other formed valves, connected with a stem so constructed and arranged that it admits external air into the measuring chamber when the discharge port is opened by the movement by said stem, all substantially in the manner and for the purposes herein set forth.

**2,712.**—W. W. GRIER and R. H. BOYD, Hulton, Pa.—*Machine for Making Augers*.—Patented May 22, 1866; reissued August 6, 1867.

*Claim.*—The means substantially as herein described for twisting the blank, in combination with the series of dies for clasp and holding the twist as it progresses, substantially as and for the purpose described.

Also, the means by which the twist is given to the blank, and which consists of the combination of the instrument having an aperture of the form of the cross section of the blank which slides on the blank, the holder to hold the blank, or the equivalent thereof, and the mechanism, or the equivalent thereof, for imparting simultaneously a longitudinal and a rotary motion, the combination having a mode of operation substantially such as hereinabove set forth.

**2,713.**—AUGUST HERMANN, New Haven, Conn.—*Apparatus for Discharging Bilge Water from Vessels' Holds*.—Patented October 2, 1866; reissued August 6, 1867.

*Claim.*—The apparatus, consisting of a vertical shaft or axle I K provided at its lower end with projecting chambers or flanges T T T and operating within a cylinder and provided with valves U, or with valve Q, or both, the whole constructed and arranged so as to operate substantially as and for the purpose described.

**2,714.**—CHARLES JONES, Philadelphia, Pa.—*Heating Stove*.—Patented July 17, 1860; reissued August 6, 1867.

*Claim.*—A dust or check draft flue inside of a heating or cooking stove, also applicable to heaters and ranges, leading from the space or ash pit below the grate to the space above the fire, or into the escape flue or pipe which conducts away the smoke or products of combustion, for the purpose of carrying off the dust and ashes when the fire is raked, which flue may be placed either in the rear, in front, or at the side of the fire pot or box.

Also, in combination with the dust flue, arranged as above, a damper or other device for closing the flue F and making the air or draft draw through the fire, substantially as described.

**2,715.**—Canceled.

**2,716.**—ISAAC M. MILLBANK, Greenfield Hill, Conn.—*Metallic Cartridge*.—Patented February 19, 1867; reissued August 6, 1867.

*Claim.*—First, a metallic base c of sufficient strength to resist the force of the hammer in exploding the fulminate, in combination with a sheet-metal cartridge case when the said base is introduced within the cartridge case and secured thereto by soldering or brazing, as and for the purposes set forth.

Second, the base c soldered or brazed inside of the sheet-metal cartridge case a, in combination with the fulminate tube i setting within an opening in the base c, as and for the purpose set forth.

Third, strengthening the base of an ordinary sheet metal cartridge case by a disk or base soldered or brazed within said case, substantially as set forth.

**2,717.**—DAVID BROOKS, Philadelphia, Pa.—*Insulator for Telegraph Wires*.—Patented November 29, 1864; reissued August 6, 1867.

*Claim.*—First, the use, in the manner described, of a hollow cylinder h of paper, or its equivalent, in connecting the glass block B to the casing A by means of sulphur.

Second, the use of paraffine as an insulating medium in telegraphic wire insulators, in the manner described, or in any other manner by which the same result is attained.

Third, the use, in connection with telegraph wire insulators, of sulphur or any other porous cement saturated with paraffine.

**2,718.**—JOHN B. BUTTON, Cleveland, Ohio, assignee of H. PIERCE and J. B. BUTTON.—*Oil Tank*.—Patented January 22, 1867; reissued August 6, 1867.

*Claim.*—First, the wooden bottom of iron tanks for holding oil when such wooden bottom is placed within the body of the tank and spiked or otherwise secured to the sills which support the tank and to which the body of the tank is also attached, either directly or with an intervening floor, substantially as hereinbefore described.

Second, the rim or abutment pieces F inserted into recesses in the sills B B for supporting the flooring of oil tanks, substantially as hereinbefore described.

Third, the combination of the foundation sills B B, flooring G, with a metallic tank H bolted to the foundation, and an inserted wooden bottom G' also fastened to the foundation, constructed and arranged substantially as hereinbefore described.

**2,719.**—JAMES E. EMERSON, Trenton, N. J.—*Swage for Sharpening Saws*.—Patented June 5, 1866; reissued August 6, 1867.

*Claim.*—First, swaging the teeth of saws and forming them into suitable shape and width and bringing them to a proper feather or cutting edge at one operation by the combined operation of a die in or on the piece of steel and a blow upon the swage, substantially in the manner and for the purpose set forth.

Second, the swage stock or handle A and the pin B, when combined and used substantially in the manner and for the purpose set forth.

Third, the groove h, when used in combination with the swage for the purpose of allowing the teeth of the saw to come up to the die, as herein set forth.

**2,720.**—ROBERT M. LIVINGSTON, Mobile, Ala.—*Composition or Paste for Article of Food*.—Patented June 4, 1867; reissued August 6, 1867.



*Claim.*—A compound or paste, of which cheese is the basis, and the admixture of any suitable seasoning or flavoring ingredients, in the manner and for the purpose specified, whether in the ratio described or in any other substantially the same.

**2,721.**—JOSEPH HALL ROHRMAN, Philadelphia, Pa.—*Dust Pan.*—Patented June 7, 1859; reissued August 6, 1867.

*Claim.*—First, a dust pan, formed with corrugations, substantially as described, for the purposes set forth.

Second, forming the back edges of the pan in the manner described, whereby it is rendered sufficiently rigid without any wiring.

**2,722.**—JAMES G. TARR and AUGUSTUS H. WOXSON, Gloucester, Mass.—*Paint for Ships' Bottoms.*—Patented November 3, 1863; reissued August 6, 1867.

*Claim.*—A paint, made of oxide of copper, with a basis and medium substantially as described.

**2,723.**—EDSELL TOTMAN, Columbus, Pa.—*Horse Power.*—Patented March 14, 1865; reissued August 6, 1867.

*Claim.*—First, in combination with a stationary spur wheel B, having a driving shaft C passing through its center and which carries upon one end a pinion spur wheel *g*, the rotating spur wheel F and pinion *h*, applied on the short arm of a triangular sweep D which turns about the axis of said shaft and carries these wheels E and *h* around with it, substantially as described.

Second, sustaining the revolving sweep D by means of a transverse brace D<sup>2</sup>, which is applied loosely to a fixed hub *b* through which the driving shaft passes, said sweep being arranged over the stationary wheel B and carrying the wheels E and *h*, substantially as described.

Third, in conjunction with a sweep D, which turns freely around a fixed hub *b* and driving shaft C, and which carries the spur wheels E and *h* upon one end, the use of lower guides *i k*, or their equivalents, applied beneath the stationary wheel B, substantially as described.

Fourth, the sweep D, cross-brace D<sup>2</sup>, hollow hub *b*, stationary wheel B, and the lower guides *i k*, arranged and operating in a machine, substantially as described.

Fifth, in combination with the sweep D revolving around a fixed hub *b* and driving shaft C, and carrying the wheels E and *h* around the stationary wheel B, the use of a removable shaft C' carrying a driving pulley N, substantially as described.

Sixth, in combination with the sweep D revolving around a fixed hub *b* and driving shaft C and carrying the wheels E and *h* around the stationary wheel B, the use of a balance wheel H carrying a wrist pin *m* and pitman rod I, and arranged beneath the supporting beam A' and frame A, substantially as described.

**2,724.**—CHARLES TRUESDALE and WILLIAM RESOR & Co., Cincinnati, Ohio, assignees of CHARLES TRUESDALE.—*Cupola and other Melting Furnaces.*—Patented May 1, 1866; reissued August 6, 1867.

*Claim.*—First, the combination with a cupola or blast furnace of a system of tweers, having openings so arranged as to discharge a blast of greater volume below than above, as set forth.

Second, the above, in a cupola or melting furnace of one or more vertical series of tweers with graduated or decreasing ventage toward the upper portion of the series, substantially as set forth.

Third, the arrangement of one or more vertical series of tweers, which project beyond the common or general lining wall, and are protected by vertical piers, substantially as set forth.

**2,725.**—CHARLES E. STANLEY, Cleveland, Ohio, assignee of JOSEPH SHIERBURNE SMITH.—*Spring Hinge.*—Patented May 19, 1857; antedated May 12, 1857; reissued August 6, 1867.

*Claim.*—First, the construction of a hinge with a tubular joint having a torsion spring therein, and with devices for adjusting and retaining said torsion, substantially as and for the purpose described.

Second, the combination of the center pin, screw pin, headed or capped spring, and tubular hinge,

constructed and arranged to operate as and for the purpose substantially as described.

**2,726.**—T. E. C. BRINLY, Louisville, Ky.—*Plow.*—Patented July 3, 1866; reissued August 13, 1867.

*Claim.*—First, constructing a plow with its land side L and the standards C D connected by the flange *e*, and having the ears *d* on the post C all cast in a single piece, as described.

Second, the mold board L, with the point E formed in a single piece and having a shoulder or projection *c* formed on its under side to rest against the front of the land side and assist in holding the mold board in place, substantially as described.

**2,727.**—JAMES M. BROWN, Boston, Mass.—*Machine for Cleansing and Softening Sheep Skins.*—Patented July 2, 1867; reissued August 13, 1867.

*Claim.*—The treatment of the skins by means of a fulling mill and water, substantially as described.

Also, the treatment of the skins by a fulling mill and water and collecting the waste wool on a screen, or its equivalent, as set forth.

Also, the combination as well as the arrangement of the screen with the fulling mill having a discharging hole in its reservoir, as explained.

**2,728.**—HENRY DISSTON, Philadelphia, Pa., and JAMES E. ATWOOD, Trenton, N. J., assignees by mesne assignments of JONAH NEWTON.—*Securing Cutters to Rotary Disks.*—Patented June 19, 1855; reissued August 13, 1867.

*Claim.*—First, a rotary cutter, consisting of a disk having recesses which represent the segment of a circle, and teeth adapted to and admitting of being adjusted in these recesses, substantially as set forth, for the purpose specified.

Second, the tooth or cutter, consisting of the segment of a ring having on its convex side a rib adapted to a groove in the above-mentioned recess.

Third, the screw *h* and segmental nut *f*, arranged for securing the tooth or cutter to the disk or plate, as set forth.

**2,729.**—FRANCIS FARQUHAR and ROBERT E. DOAN, Wilmington, Ohio.—*Sugar Evaporator.*—Patented September 25, 1866; reissued August 13, 1867.

*Claim.*—First, a sugar evaporator, having its fire box and flues arranged so as to be surrounded with the juice to be evaporated, substantially as and for the purpose herein specified.

Second, an evaporating or boiling apparatus, having a fire chamber, flue, or flues, whose walls are parallel or nearly parallel with the adjacent surfaces, in order that the liquid-containing space or spaces may be adapted for subjecting a given quantity of liquid to the most uniform and effective action of heat, substantially as described.

Third, the arrangement of the flues C D D and E, substantially as herein set forth.

Fourth, the evaporating space S''' between the flues D D E and the fire box, as described.

Fifth, the flue connections L L between the fire box B and flues D D, for the purpose set forth.

**2,730.**—JOSEPH B. PALSER and GARDNER HOWLAND, Fort Edward, N. Y.—*Apparatus for the Manufacture of Paper Pulp.*—Patented June 21, 1859; reissued July 3, 1860; and again reissued August 13, 1867.

*Claim.*—First, the employment of two boilers in the reduction of paper stock, so arranged in respect to each other that the steam heat remaining in one after the boiling process has been completed may be transferred to the other boiler in which the boiling process is being commenced, in combination with the pipes or other means by which such steam heat is thus transferred, substantially in the manner and for the purpose above described.

Second, the transferring of the steam heat from a boiler in which paper stock has been boiled, immediately after such boiling has been completed, to another boiler charged with paper stock, for the purpose of utilizing the heat remaining in the first boiler after the completion of the boiling processes therein, substantially in the manner and for the purpose above described.

Third, the arrangement and combination of the



boilers, the furnace A, and the doors D D' E E' and F F', so as to apply the furnace heat to either or both the boilers at pleasure, substantially in the manner and for the purpose above described.

**2,731.**—JOSEPH B. PALSER and GARDNER HOWLAND, Fort Edward, N. Y.—*Manufacture of Paper Pulp*.—Patented June 21, 1859; reissued July 3, 1860; and again reissued August 13, 1867.

*Claim.*—First, an internal division of the pipe *b*, which passes through the hollow journal of the rotary boilers, by means of a partition, so that the steam from the upper portion of the boiler may find exit through one compartment of the pipe, and the liquid contents of the boiler may find an exit through the other compartment thereof, in the manner and for the purpose described.

Second, the employment of the perforated diagram *p p'*, when arranged substantially as described, to protect the pipes *h h' s s* and to strain the liquid from the stock, as and for the purposes above described.

**2,732.**—GUSTAVUS STONE, Beloit, Wis.—*Harvester Cutter*.—Patented January 8, 1856; reissued August 13, 1867.

*Claim.*—First, making the sections of which the grass-cutting blades are usually made of two pieces of steel A and P, with but one cutting edge D upon each, and so placing them upon the sickle bar C that there shall be a wedge-shaped opening J between their backs, closed at the points, and widening out towards the bar.

Second, providing the heel K of the sickle bar C with the conical or conoidal points L L, or their equivalents, for the purpose shown and described.

**2,733.**—ROBERT ANDERSON, Brooklyn, N. Y.—*Machine for Hulling Rice*.—Patented February 21, 1860; reissued August 13, 1867.

*Claim.*—A series of revolving beaters of any suitable flexible material, in combination with a surrounding casing or cylinder, the interior surface of which is of rough stone-like character, for operation together in pearling or polishing rice, substantially as specified.

**2,734.**—NATHANIEL L. CHAMBERLAIN, Boston, Mass., assignee of DEXTER H. CHAMBERLAIN.—*Hand Stamp*.—Patented July 9, 1867; reissued August 13, 1867.

*Claim.*—The type wheel *b*, having figures upon its side, when the said wheel is arranged between and used in combination with the wheels of smaller diameter, as and for the purpose set forth.

**2,735.**—AMERICAN FIRE ESCAPE AND FIREMAN'S LADDER COMPANY, New York, N. Y., assignee of ROBERT WYATT.—*Fire Escape*.—Patented June 20, 1865; reissued August 20, 1867.

*Claim.*—First, the apparatus composed of a divided case A and *g*, composed of two sides of the ladder and hinged together by a series of rounds of steps *h h*, and secured substantially as and for the purposes herein set forth, the whole forming a fire escape ladder.

Second, the fastening, substantially as herein described, whereby the two segments forming the sides of the ladder are held securely together and locked against improper interference, for the purposes set forth.

**2,736.**—A. S. BABBIT, Keesville, N. Y.—*Bed Bottom*.—Patented January 29, 1867; reissued August 20, 1867.

*Claim.*—The block A, with its ears *a a* and shoulders *x x*, when constructed substantially as described and used for the purposes set forth.

**2,737.**—R. HOE & Co., New York, N. Y., assignees by mesne assignments of GEORGE K. SNOW.—*Machine for Affixing Post Office Stamps to Letters*.—Patented May 18, 1858; reissued August 20, 1867.

*Claim.*—First, the combination of the following elements, viz., a feeding mechanism to advance the strip of stamps or labels, a shearing or cutting mechanism to separate the stamps or labels, a platen to affix the stamps or labels, and a bed, or equivalent

therefor, to support the article being stamped or labeled, constructed and operating substantially as described and for the purpose specified.

Second, the feeding mechanism, the platen, the shear or shears arranged with respect to the lever, and the bed, or equivalent therefor, substantially as specified, whereby by the reciprocating motion of the lever results will take place substantially as set forth.

Third, the combination and arrangement in a single instrument of the lever C, the platen H, and a shear or cutting edge *d*, substantially as described and for the purposes set forth.

**2,738.**—GEORGE W. HOLLY, Low Moor, Iowa.—*Hanging Doors*.—Patented October 16, 1866; reissued August 20, 1867.

*Claim.*—The arms *f f* and rods *e e*, arranged and operating relatively with the bars C F and door or gate A, substantially as described and for the purpose specified.

**2,739.**—CHARLES PERLEY, New York, N. Y.—*Operating Ordnance*.—Patented December 12, 1865; reissued August 20, 1867.

*Claim.*—First, the mode, herein specified, of elevating a gun or mortar from behind a breastwork or protection previous to its discharge, and the lowering of the same previous to loading, by a hydraulic ram and cylinder, as specified.

Second, a plunger and chamber, from which there is an opening to form a gradual recoil check for ordnance by the escape of the fluid or liquid contained in such chamber.

Third, projecting the gun forward by the pressure of a liquid upon a ram or plunger, substantially as specified.

Fourth, adjusting or sighting the gun by means of pressure acting upon a ram or plunger in a chamber, substantially as specified.

Fifth, elevating the charge or projectile by pressure acting upon a ram or plunger, substantially as specified.

Sixth, connecting the chamber in which the recoil plunger acts with the cylinder sustaining the gun, substantially as specified, so that the pressure in the latter shall force the gun forward, as set forth.

Seventh, supplying through the sustaining ram *d* the liquid or fluid that acts by its pressure to protect the ram, or to adjust or sight the same, substantially as set forth.

**2,740.**—ALBERT J. REDWAY, Cincinnati, Ohio.—*Fireplace*.—Patented May 7, 1867; reissued August 20, 1867.

*Claim.*—First, in the described combination with an open front stove or fireplace, the crown C, (whether flat, truncated, or arched,) having the side flues D D', and dividing strip or strips G G', substantially as set forth.

Second, surmounting the fire chamber of a grate or stove with the arched crown C, which extends from the back of the fire chamber, and is provided with side flues D D', all arranged and operating in the manner herein described and set forth.

Third, in combination with the crown C and side flues D D', the flue strips G G' and abutment H H, for the purpose specified.

**2,741.**—ALFRED ROBINSON, New York, N. Y.—*Preparation of Roofing Fabric*.—Patented June 20, 1865; reissued August 20, 1867.

*Claim.*—First, the method of coating a sheet or sheets of felt or other material with asphalt or other cement in a soft or plastic state, by applying such material to one side of the sheet while the other side is supported by a roller or moving surface, substantially as set forth.

Second, uniting two or more thicknesses of felt or paper to form a roofing material by means of asphalt or other cement introduced between such thicknesses while supported and moved by a roller, substantially as set forth.

**2,742.**—R. STILWELL and A. D. FARRELL, New York, N. Y., assignees of R. STILWELL.—*Spring Mattress*.—Patented September 20, 1864; reissued August 20, 1867.

*Claim.*—First, hinging together the sections con-



taining the springs substantially as herein shown and described, so that the folded horizontal sections thereof shall have a separation of about twice the thickness of the mattress, all as set forth.

Second, the combination with the mattress at the folds thereof, and with the horizontal section of an end section, substantially as and for the purpose herein shown and described.

Third, the catching lips *i* in combination with the hinges, substantially as herein shown and described.

**2,743.**—WILLIAM N. WHITELEY, Springfield, Ohio, assignee of JOHN S. TROXEL.—*Harvester Reel*.—Patented May 11, 1858; reissued August 20, 1867.

*Claim.*—First, supporting the blades of overhanging reels from the head or plate on the end of the short shaft at the inner end of the reel by means of the straight arms *i* and oblique arms *K*, substantially as set forth.

Second, the head or plate *J*, or equivalent, for the purpose of connecting the arms *K K*, which support the blades to the short shaft, at the inner end of the reel, substantially as and for the purpose set forth.

Third, the adjustable head or plate *J*, substantially as and for the purpose specified.

Fourth, the head *J*, constructed with the slots *N* in combination with the clamping bolt *M* and permanent arm *I*, substantially for the purpose set forth.

**2,744.**—HENRY M. WHITMARSH, Abington, and SILAS S. PUTNAM, Dorchester, Mass.—*Clothes Hook*.—Patented January 29, 1867; reissued August 20, 1867.

*Claim.*—A pivoted hook *C* with its slot or opening *e*, so arranged that it may be closed up and thus occupy less space, substantially as described.

Also, in combination with the above a plate or bracket *A*, substantially as and for the purpose set forth.

**2,745.**—CHRISTOPHER HODGKINS, Marlboro, N. H.—*Sewing Machine*.—Patented August 20, 1861; reissued August 20, 1867.

*Claim.*—First, the combination of the jointed arcs *K L* fitted between the feed ring *J* and the supporting block *M*, the lever *N* and its cam *f*, and the screw *i*, the whole arranged substantially as described in relation to each other and to the cam *O* on the feed shaft *G*, and operating as set forth.

Second, so arranging and applying the rotary looper in combination with an eye-pointed needle for working the chain stitch, that the point of the looper enters the loop of needle thread while below the axis of rotation, substantially as herein described, or, in other words, while on the opposite side of said axis to that in which the cloth is situated.

**2,746.**—CHRISTOPHER HODGKINS, Marlboro, N. H.—*Sewing Machine*.—Patented August 20, 1861; reissued August 20, 1867.

*Claim.*—The internal gear *H* in combination with the pinion *E*, for actuating a reciprocating needle, and the pinion *G'* for operating a looper or instrument for forming stitches in a sewing machine, substantially as described and for the purposes specified.

**2,747.**—J. W. LATCHER and W. J. POWELL, Amsterdam, N. Y.—*Railroad Car Brake*.—Patented December 27, 1864; reissued August 20, 1867.

*Claim.*—Suspending or hanging railroad car brakes by means of suitable sleeves secured to the cross-beams of the brake, and so fitted as to slide forward and backward on appropriate guide ways secured to the truck, substantially as and for the purposes set forth.

**2,748.**—SAMUEL NICOLSON, Boston, Mass.—*Wooden Pavement*.—Patented August 8, 1854; reissued December 1, 1863; and again reissued August 20, 1867.

*Claim.*—First, placing a continuous foundation or support, as above described, directly upon the roadway, then arranging thereon a series of blocks having parallel sides, endwise in rows, so as to leave a continuous narrow groove or channel way between each row, and then filling said grooves or channel ways with broken stone, gravel, and tar, or other like materials.

Second, the formation of a pavement by laying a foundation directly upon the roadway, substantially

as described, and then employing two sets of blocks one a principal set of blocks, that shall form the wooden surface of the pavement when completed, and an auxiliary set of blocks or strips of board, which shall form no part of the surface of the pavement, but determine the width of the groove between the principal blocks, and also the filling of said groove, when so formed between the principal blocks, with broken stone, gravel, and tar, or other like material.

Third, placing a continuous foundation or support, as above described, directly upon the roadway, and then arranging thereon a series of blocks having parallel sides, endwise in a checkered manner, so as to leave a series of checkered spaces or cavities between said blocks, and then filling said checkered cavities with broken stone, gravel, and tar, or other like material.

Fourth, the formation of a pavement by laying a foundation directly upon the roadway, substantially as above described, and then employing two sets of blocks, viz., one a principal set of blocks that shall form the wooden surface of the pavement, and an auxiliary set of blocks that shall form no part of the wooden surface of the pavement, but determine the dimensions of the tessellated cavities between the principal blocks, and then filling said tessellated cavities with broken stone, gravel, and tar, or other like material.

**2,749.**—THE AMOSKEAG MANUFACTURING COMPANY, Manchester, N. H., assignees of NEHEMIAH S. BEAN.—*Picker-staff Motion for Looms*.—Patented January 22, 1861; reissued May 28, 1867; and again reissued August 20, 1867.

*Claim.*—The improved arrangement of the rocker *b* within the link *c* and on the support piece *e*.

Also, the arrangement of the spring *f* with the support piece *e*, the link *c*, and the rocker *b*.

Also, the arrangement of the ears *g* with the link *c* support piece *e*, and the rocker *b*, the whole being substantially as specified.

**2,750.**—BERNARD MORAHAN, Brooklyn, N. Y.—*Brush Holder*.—Patented July 9, 1867; reissued August 20, 1867.

*Claim.*—The frame *A*, or its equivalent, in combination with a hinged or pivoted jaw, or the equivalent thereof, so arranged as to expand or contract as the size of the brush may require, for the purpose herein shown and described.

**2,751.**—N. D. HINMAN, Stepney Depot, Conn.—*Elevator*.—Patented November 29, 1864; reissued August 20, 1867.

*Claim.*—The bars *J J L L* pivoted in the car *A*, as shown, and the bars *J J*, connected at one end by a cross-piece *k*, in combination with the button *G* on the chain *F*, and the pins *e* on the inclined ways *M*, all arranged substantially as and for the purpose herein set forth.

Further, the bent pawl *H*, arranged to operate in connection with the chain *F* and pulley *D*, substantially as and for the purpose set forth.

**2,752.**—LEVI H. WHITNEY, Vallejo, Cal.—*Training Hops, &c.*—Patented December 4, 1866; reissued August 20, 1867.

*Claim.*—First, the herein described mode of training hop vines, &c., in such a manner as to lead them up wires diverging from each hill, and then horizontally across the space to the next row opposite, upon wires retained separate at any desirable width or distance from each other over the whole surface of the plantation, substantially as set forth.

Second, the shackles or device herein described for securing the strings or cords, when constructed and used in the manner described.

Third, constructing the shackles *b b b* with longer arms than those of *c c c*, to allow them to drop lower than the latter, to which the upper ends of the cords are attached.

Fourth, the device constructed and arranged as described, for securing the lower ends of the cords over the hills of vines, for the purpose described.

**2,753.**—AUGUSTUS BROWN, New York, N. Y.—*Governor for Steam Engines*.—Patented November 7, 1865; reissued August 27, 1867.



*Claim.*—The swivel arm C, subjected to the action of a spring or weight in combination with the throttle or governor valve of a steam engine, and with the belt which serves to impart motion to the governor, substantially as and for the purpose described.

**2,754.**—PUTNAM MACHINE COMPANY, Fitchburg, Mass., assignees of CHAS. H. BROWN and CHARLES BURLEIGH.—*Valve Gear for Steam Engines.*—Patented January 15, 1856; reissued August 27, 1867.

*Claim.*—First, the cam shaft S, when so arranged with reference to the main shaft K of the engine as to revolve at a rate of speed less than that of the said main shaft of the engine, substantially as and for the purpose described.

Second, the within described arrangement of two or more cams *h* upon the shaft S, and with reference to the induction valves, substantially as and for the purpose described.

Third, the shoulder and levers *d*, having adjustable fulcrums *e*, in combination with a cam or cams *h* for operating the valves and varying the point of cut-off, substantially as set forth.

Fourth, arranging the governor with reference to the shouldered levers *d*, so that it will control the position of their fulcrum *e*, and thereby regulate the velocity of the engine, substantially as described.

Fifth, the manner of arranging the steam and exhaust valves with relation to the cylinder H and shaft S, substantially as and for the purpose set forth.

**2,755.**—ROBERT BRYSON, Schenectady, N. Y.—*Harvester.*—Patented April 8, 1862; reissued August 27, 1867.

*Claim.*—First, a main frame of a harvester which is adapted for carrying the driver's seat and the gearing that operates the cutters, and also for having the draft tongue attached to it, said frame being carried by two driving and supporting wheels, both of which are furnished with a ratchet and pawl having a finger bar carrying a platform hinged to it at one side thereof, in combination with a circularly moving sweep rake, which is sustained by the hinged connection of the finger bar and platform, and moves over the platform at intervals and discharges the cut crop at one side thereof, in rear of the driving wheels, such rake being driven automatically from the draft frame.

Second, a fulcrum or pivot for a circularly moving sweep rake, a guide for such rake, and a finger beam carrying a platform, all so connected to each other and hinged to the draft frame at one side thereof that while the rake has no other support upon the draft frame than is derived from the hinge connection of the finger beam, and is driven automatically from the draft frame, it with its pivot and guide will work in unison with the platform and finger beam through all the vibrations of the same without affecting the draft frame or changing the angle of the pivot or fulcrum with the platform.

Third, arranging the crank, or its equivalent, which communicates motion to a rake which is on a hinged platform nearly in line with the joint of the finger bar, so that the movements of this finger bar will not cause the joint to bind, nor materially affect the motion of the crank which works the rake.

Fourth, in a harvester with a two-wheel draft frame, a finger bar carrying a platform and a rake, the finger bar platform and rake being connected to each other and hinged to the draft frame at one side thereof, communicating motion to said rake from the main axle when the latter is connected to both driving wheels by pawls and ratchets.

Fifth, the combination of a finger beam carrying a platform and a circularly moving sweep rake, an inner and outer supporting wheel for the finger beam, platform, and rake, a hinge connection which is parallel or nearly so to the line of draft for the finger beam and platform, and a two-wheel draft frame.

Sixth, a sweep rake mounted upon a platform connected to a finger beam which is hinged to the inner side of a draft frame in such manner that the inner edge of the platform does not extend beyond the said inner side of the draft frame.

Seventh, a sweep rake, a platform, and a finger beam, connected together and hinged to the draft frame by means of a hinge connection which allows both the outer and inner ends of the finger beam and platform to accommodate themselves to the undulations of the ground, so that the rake is allowed un-

changingly to follow the motions of the platform and cutting apparatus or finger beam.

Eighth, a sweep rake mounted on a hinged platform and driven from the main frame, the pivot of said rake being between the center of the draft frame and the outer divider of the platform, and the platform upon which the grain falls terminating near the inner side of the draft frame.

**2,756.**—STEWART HARTSHORN, New York, N. Y.—*Shade Fixture.*—Patented October 11, 1864; reissued August 27, 1867.

*Claim.*—The application to a shade roller provided with a spiral spring, for automatically raising or rolling up the shade, of a pawl and a ratchet, or notched hub, so arranged that the former will engage with the latter at any point or height of the shade by simply echeeking the rotation of the roller and the upward movement of the shade under the influence of the spring, substantially as set forth.

**2,757.**—CHARLES F. MARTINE, Boston, Mass.—*Sofa Bedstead.*—Patented June 6, 1854; reissued December 25, 1855; and again reissued August 27, 1867.

*Claim.*—First, the single spring mattress so constructed and arranged with a sofa having a hinged back as to form, when the back is dropped from an upright to a horizontal position for forming a bed, an even surface without joint or center depression, substantially as and for the purpose specified.

Second, so constructing and arranging the single spring mattress with a sofa having a hinged back that when the back is raised from a horizontal to an upright position for forming a sofa, said mattress shall be drawn in or depressed longitudinally at or near its center by means of cords, or their equivalents, and will have the appearance and effect of two separate cushions, one for the seat and the other for the back of the sofa, substantially as specified.

Third, the arms separated in the center, when used in combination with the sofa and mattress, constructed in the manner and for the purpose described.

**2,758.**—ABRAM and CHARLES CLOW, Port Byron, N. Y., assignees of CHARLES, ABRAM, and CHARLES N. CLOW.—*Agricultural Fork.*—Patented December 8, 1857; reissued September 3, 1867.

*Claim.*—First, in combination the metallic head A and wooden tines B, substantially as and for the purpose herein specified.

Second, the arrangement of the ribs or braces *f*, running obliquely from socket to socket, and crossing with relation to each other upon opposite sides of the head, as and for the purpose set forth.

Third, the arrangement of the sockets *a a*, diverging laterally from the rear to the front of the head, in the manner shown and for the purpose set forth.

Fourth, the conical sockets *a*, when made tapering from the rear of the head toward its front, in connection with the wooden tines B and metallic head A, substantially in the manner and for the purpose set forth.

Fifth, the brace E and bow D, when attached to each other with a hinge joint so as to fold together without being detached from each other, substantially in the manner and for the purpose described.

Sixth, the jointing of the bow D onto the head, for the purpose and in the manner substantially as described.

**2,759.**—SAMUEL L. DENNY, Christiana, Pa.—*Sugar Cane Mill.*—Patented September 28, 1858; reissued September 3, 1867.

*Claim.*—First, eccentric boxes when used to support the journals of shafts or cylinders for the purpose of effecting compensation for the wearing away of the journals and bearings, substantially as described.

Second, the eccentric boxes R, in combination with the arms *c c* and the lever F, as and for the purpose set forth.

**2,760.**—EUGEN LANGEN, Cologne, Prussia.—*Grate for Furnaces.*—Patented November 14, 1865; reissued September 3, 1867.

*Claim.*—First, the employment of two or more shelves, or their equivalents, adapted to receive fuel and allow it to be pushed forward thereon, into and under the fire at different levels, in combination with



grates, or their equivalents, connected therewith at different levels, the whole being arranged for joint operation substantially as and for the purpose herein set forth.

Second, the cinder section or ash pits *j*, arranged relatively to the shelves and grates at different levels, substantially as and for the purpose herein set forth.

Third, the grated door *z*, turning on trunnions as represented, and arranged to operate relatively to the cinder support *j* and the superior portions *f g* of my compound grate, substantially in the manner and for the purpose herein specified.

**2,761.**—JONATHAN PEACOCK, Rockford, Ill.—*Barrel Washing Machine*.—Patented March 13, 1866; reissued September 3, 1867.

*Claim.*—First, the combination substantially as described of the clamping frames (arranged end to end) with the locking device, so that the barrels in each frame may be revolved independently of those in the others, or all may be revolved together.

Second, the arrangement of the clamping frames, as described, whereby the barrels in each frame are counterbalanced by those in the other.

Third, the combination in the manner described of the adjustable clamping rails with the rotating heads.

Fourth, arranging the slots in which the clamping rails *d* are adjusted parallel to each other and tangentially to the axis of rotation of the frames, as described.

Fifth, the arrangement, as described, above the rotating clamping frames of the water trough divided into compartments by the transverse partition provided with the valve which regulates the supply of water to one of the compartments, whereby I equalize the quantity of water admitted to each barrel.

Sixth, the arrangement as described of the trough, the slide valve in its bottom, and the filling pipes.

Seventh, the combination, as described, with the water trough and filling pipes, of the lifter which simultaneously withdraws all the pipes from the barrels and holds them out of the way of the revolving barrels.

**2,762.**—JAMES MEYER, Jr., New York, N. Y.—*Knife Sharpener*.—Patented May 14, 1867; reissued September 10, 1867.

*Claim.*—First, the cutting plates *E E'*, provided with longitudinal rounded edges, and connected together by a sliding joint, substantially in the manner as and for the purpose set forth.

Second, the combination of the handle *A* with the two pairs of cutters *E E' F F'*, the clamp at one end of the handle, and the recesses in the same to receive the cutters with or without the strap *G*, substantially as and for the purpose specified.

Third, the cutters *E E'*, when placed in the same plane, and connected together by means of the sliding joint, or its equivalent, substantially as described for the purpose specified.

**2,763.**—DAVID S. WOOD, Delaware, Wis.—*Pump Piston*.—Patented July 10, 1866; reissued September 10, 1867.

*Claim.*—The expansible loose packing *D*, arranged on a piston which is provided with a channel wider and deeper than the packing for the reception of the same, substantially as and for the purpose herein shown and described.

**2,764.**—ELIJAH KEMPER, Thorn Township, Pa.—*Gate*.—Patented June 24, 1862; reissued September 10, 1867.

*Claim.*—A gate arranged so as to have both a sliding and swinging movement to open and close it, substantially as and for the purpose herein specified.

Also, a gate so arranged that it may slide till it is supported centrally, and then swing, balanced on its support, substantially as herein set forth.

Also, in combination with a sliding and swinging gate, a guide or guides, which shall serve both to direct the sliding of the gate and to support it for and allow its swinging, substantially as herein specified.

Also, the combination of a sliding latch with a sliding and swinging gate, substantially as and for the purpose herein set forth.

**2,765.**—WILLIAM WESTLAKE and JAMES F. DANE, New York, N. Y., assignees of CONRAD GERS-

TEX.—*Lantern*.—Patented January 25, 1859; reissued September 17, 1867.

*Claim.*—First, the deflector *q*, constructed and operating substantially as and for the purposes specified.

Second, the mode of controlling the current of air which feeds the flame by causing it to pass down in a narrow annular space or passage to the aperture leading to the burner, in combination with a deflector, substantially as specified.

Third, combining with the burner and the oil reservoir, and interposed between the two, an air chamber for preventing the oil from being overheated, as described.

**2,766.**—WILLIAM WESTLAKE and JAMES F. DANE, New York, N. Y., assignees of CONRAD GERS-TEX.—*Lantern*.—Patented January 25, 1859; reissued September 17, 1867.

*Claim.*—First, extending the spindle for operating the wick ratehet through the outer casing of a lantern, substantially as and for the purposes specified.

Second, a spindle extending through the outer casing of a lantern so combined with a toothed wheel or rotating device and wick tube so that the wick may be adjusted without removing or changing the lamp.

Third, the spindle *k i*, button *m*, and tube *l*, in combination with the ratehet and wick tube of a lantern, substantially as specified.

**2,767.**—JOHN MCMURTRY, Lexington, Ky., assignee of J. A. ROEBLING and J. MCMURTRY.—*Railroad Chair*.—Patented October 31, 1865; reissued October 1, 1867.

*Claim.*—First, a solid block of cast iron or steel of sufficient length to rest on two or more sleepers and constructed as described, in combination with a plate of iron or steel of like length fitted on the opposite side of the rails and secured to said block and rails in the manner and for the purpose specified.

Second, a plate of iron or steel of such length that it will rest on two or more sleepers, in combination with a like plate fitted on the opposite side of the rails, both being constructed and connected as and for the purpose set forth.

Third, the vertical flanges pendent from the inner edge of the bases of the two plates, in combination with said plates, substantially as and for the purpose described.

**2,768.**—WILLIAM H. MILLER and GEORGE W. MILLER, West Meriden, Conn.—*Breech-loading Firearm*.—Patented December 26, 1865; reissued October 1, 1867.

*Claim.*—First, the latch *E*, arranged and operating in combination with the face plate *b*, oscillating breech piece *B*, and catch *i*, substantially as described.

Second, the combination of the swinging breech piece, striker, and detent, operating together as and for the purpose described.

Third, the plate ejector *F* with its shoulders, stop, and finger, when hung loosely upon and controlled in its movements solely by the pivot pin of the swinging breech, and moving around the same center with it and operated by the inserting of the cartridge and the swinging of the breech, in the manner substantially as described.

**2,769.**—HENRY SAWYER, Roxbury, Mass.—*Putting up Powders, &c.*—Patented January 5, 1864; reissued October 1, 1867.

*Claim.*—A package or case which, when made with distributing holes and filled, is cemented by the wax or wafer *e*, as set forth.

**2,770.**—ALFRED B. ELY and CHARLES WILD, trustees of JOHN ASHTON GREENE, Brooklyn, N. Y., assignee by mesne assignments of DANIEL E. HAYWARD.—*Heel Stiffener*.—Patented October 27, 1863; reissued October 8, 1867.

*Claim.*—As a new article of manufacture for the heels of boots and shoes, a stiffening made of india-rubber mixed with ground rags or other suitable fibrous material and formed in molds, substantially as and for the purpose described.

**2,771.**—ALFRED B. ELY and CHARLES WILD, trustees of JOHN ASHTON GREENE, Brooklyn, N. Y., assignee by mesne assignments of DANIEL E. HAY-



WARD.—*Heel Stiffener*.—Patented October 27, 1863; reissued October 8, 1867.

*Claim*.—As a new article of manufacture, a heel stiffener or counter of india-rubber and its compounds, which is shaped and vulcanized in the mold in which it is formed, and made as set forth, for the purpose described.

**2,772.**—JAMES D. JONES, Columbiana, Ohio.—*Horse Rake*.—Patented May 9, 1865; reissued October 8, 1867.

*Claim*.—First, the pivoted seat *g*, in combination with the lever *s* and catch *ll*, when used for the purpose of holding the rake teeth *l* to their work, as herein described and set forth.

Second, the combination of the unshipping piece *r*, pivoted seat *g*, and catch *ll* with the lever *s*, when used for the purpose of unshipping the slide *I* and for holding the lever *s*, and thereby keeping the teeth *l* to their work, substantially as herein described and set forth.

**2,773.**—M. C. LONGACRE, Cleveland, Ohio.—*Refrigerator*.—Patented March 15, 1864; reissued October 8, 1867.

*Claim*.—The combination with the open frame ice-box *A E*, the movable rack *C*, movable corrugated plate *F*, movable rack *g*, trough *H*, and waste pipe *I* with a refrigerator or provision room, for the purpose herein specified.

**2,774.**—CHARLES S. BURT, Dunleith, Ill., assignee by mesne assignments of H. H. Low.—*Shingle Machine*.—Patented April 19, 1859; reissued October 8, 1867.

*Claim*.—First, in a shingle machine, operated by means of a vertically-reciprocating frame *E* which feeds a shingle bolt to a circular saw *C*, the use of a rack and pinion, by which a constant and uniform feed motion is secured while the shingle is being sawed, substantially as described.

Second, in a shingle machine such as is above contemplated, the use of a rack and pinion for feeding uniformly the bolt to the saw, in combination with another rack and pinion, by which the frame *E* is elevated preparatory to making a new cut, substantially in the manner above described.

Third, in a sawing machine of the kind herein set forth, the instrumentalities above described, or their fair equivalents, for securing the automatic working of the machine, substantially as described.

**2,775.**—CHARLES E. STANLEY, Cleveland, Ohio, assignee of JOSEPH SHERBURNE SMITH.—*Spring Hinge*.—Patented May 19, 1857; antedated May 12, 1857; reissued August 6, 1867; and again reissued October 8, 1867.

*Claim*.—First, the construction of a hinge with a tubular joint, having a torsion spring therein, and with devices for adjusting and retaining said torsion, substantially as and for the purposes described.

Second, the combination of the center pin, adjusting or screw pin, headed or capped spring, and tubular hinge, constructed and arranged to operate as and for the purpose substantially as described.

**2,776.**—J. P. CORBIN, Whitney's Point, N. Y., assignee by mesne assignments of JOSIAH SEYMOUR.—*Working Butter*.—Patented December 20, 1859; reissued October 15, 1867.

*Claim*.—First, a vibrating rod *F*, handle *G*, and butter worker *H*, combined and arranged to operate as shown, or in an equivalent manner, for the purpose set forth.

Second, the combination of the tray *B* with the butter working apparatus, arranged for joint operation, substantially as shown and described.

Third, the manner of tripping the tray or bowl to drain off the fluids, also of securing it to the table or frame, for the purpose set forth.

**2,777.**—JOSIAH HOBART, Waltham, Mass., assignee of DANIEL G. ROLLIN.—*Volute Spring*.—Patented February 23, 1858; reissued October 15, 1867.

*Claim*.—First, a double volute spring, having the bearing ends symmetrical, and playing endwise in the same line.

Second, a double volute spring, composed of a single plate, operating substantially as described.

**2,778.**—THE UNION SUGAR REFINERY, Charlestown, Mass., assignees of GUSTAVUS A. JASPER.—*Cleansing Animal Charcoal*.—Patented March 27, 1866; reissued October 15, 1867.

*Claim*.—The new or improved process, substantially as hereinbefore described, for treating charcoal, either after or before its use, in a filter, for the cleansing of a saccharine or other liquid, the same consisting in boiling the charcoal in an acid solution and washing it, the whole being essentially as specified.

Also, for removal from the charcoal of the gummy and other matter, except the lime or alkaline matter, the treatment or process of treating the charcoal without the use of acid, the same consisting in boiling the charcoal in water, or so boiling it and washing it, the charcoal being subsequently dried, as set forth.

**2,779.**—C. P. S. WARDWELL, Lake Village, N. H., assignee by mesne assignments of FREDERIC PLANT.—*Machine for Making Needles*.—Patented June 19, 1860; reissued October 13, 1867.

*Claim*.—First, the combination of the traveling nippers or gripe and stationary wire holder, or equivalent feeding device, cutting-off shears or device, and eye or groove punch or die, substantially as and for the purposes specified.

Second, the combination of the traveling nippers or gripe and stationary wire holder, or equivalent feeding device, an eye or groove punch or die, and a tube or tubes *e*, or equivalent wire or needle blank holder, substantially as and for the purposes herein set forth.

Third, the combination of the traveling nippers or gripe and stationary wire holder, or equivalent feeding device, cutting-off shears or device, and one or more tubes or equivalent wire or needle holder, substantially as and for the purposes specified.

Fourth, the combination of one or more tubes, or equivalent wire or needle holder, and the wire or needle carrier, substantially as herein described, or equivalent device for moving the wire or needle blanks to the action of the operative devices, substantially as and for the purposes herein set forth.

Fifth, the combination of the cutting-off shears or device, eye or groove, punch or die, one or both, and wire or needle carrier or equivalent mover, substantially as and for the purposes herein set forth.

Sixth, the combination of the wire or needle carrier, or equivalent mover, one or more, pointing or reducing cutters, and a bed or block to keep or rest the needle blanks against, substantially as and for the purposes herein specified.

Seventh, one or more revolving tubes *c e*, for holding the needle blanks or wires, constructed and operating substantially as and for the purposes herein described.

Eighth, the combination of the cutting-off shears or device, eye or groove, punch or die, singly or together, and wire or needle carrier or equivalent mover, with the cutting or grinding wheel *n* for flattening or "slabbing" the needle wire or blanks, substantially as and for the purposes set forth.

Ninth, the combination of the wire or needle carrier or equivalent mover, the flattening wheel, and the adjustable bed or block, to keep the needle blanks or wires to the flattening wheel, substantially as and for the purposes set forth.

Tenth, the combination of the wire or needle carrier or equivalent mover, polishing wheel, and spring rest, for the purposes specified.

Eleventh, the combination of the wire or needle carrier, or equivalent mover, and the barb-bending mechanism, substantially as herein specified.

Twelfth, a combination of mechanical devices, as described, or equivalents thereof, by which needles are automatically made from the wire, either including or not the bending of the barbs and the polishing of the needles.

**2,780.**—Cancelled.

**2,781.**—NANCY POINDEXTER BRASHEAR, Pattersonville, La., executrix of the estate of ROBERT B. BRASHEAR, deceased.—*Applying Sulphurous Acid Gas in the Defecation of Saccharine Liquids*.—Patented December 6, 1859; reissued October 22, 1867.

*Claim*.—First, the use of the fumes of burning sul-



phur, or sulphurous acid gas, in the treatment of juices containing saccharine matter, substantially as described.

Second, subjecting sugar-cane juice or other saccharine liquid to the direct action of the fumes of burning sulphur, such liquid being employed in a diffused state, or in such manner treated that it will be thoroughly impregnated with the fumes of sulphur, substantially as described.

**2,782.**—HIRAM L. BROWN and CALVIN P. BROWN, Shortsville, N. Y., assignees of GILBERT JESSUP.—*Seeding Machine*.—Patented June 25, 1861; reissued October 22, 1867.

*Claim.*—The shaft G of the vertical disk distributors of seeding machines, when constructed with a rim or flange *j*, for carrying the grain over the wheel from the hopper to the drill teeth.

Second, so constructing and arranging the distributing cases and wheel in this class of seed drills that either of two openings, H and D, may be used alternately for feeding different kinds of grain, substantially as described.

Third, so constructing and combining the distributing wheel G and casing A B that the grain may be carried by the wheel from either of the two openings C and D, and discharged through channels of different sizes, adapted to larger or smaller grain, substantially in the manner set forth.

Fourth, the mode, substantially as set forth, of giving the requisite play to the wheel G by hanging it loosely on a shaft not round, and supporting it on the casing by means of a hub or boss.

Fifth, so constructing the exterior or interior faces of the flange *f* that, by means of irregularities upon the surface thereof, the grain may be carried with the revolution of the wheel, substantially in the manner set forth.

Sixth, the combination of the casing A and B, distributing wheel G, and partition P, substantially as and for the purpose set forth.

Seventh, the casing A B, constructed in two pieces, with horizontal flanges *f'* for attaching it to the hopper, when used in combination with a vertical distributing wheel G, substantially in the manner set forth.

**2,783.**—ROBERT T. CAMPBELL, Washington, D. C., assignee of THOMAS I. STEALEY.—*Reaper and Mower*.—Patented December 15, 1857; reissued November 6, 1866; and again reissued October 22, 1867.

*Claim.*—First, the main frame of a harvester which carries the gearing to drive the cutters, and to which frame the tongue is attached, said frame being carried by two driving and supporting wheels and having the finger bar and platform hinged to it, so as to rise and fall at the outer end above and below the plane on which the driving wheels run, in combination with a rake moving over the platform at intervals, and discharging the cut grain at the inner side of the platform, and out of the path of the team in cutting the next swath.

Second, in a harvester with a finger bar and platform hinged to the draft frame thereof, so as to rise and fall at the outer end above and below the plane on which the driving wheels run, applying the pivot or fulcrum of the rake and its guide to the finger bar and platform, so that the rake will work in unison with the finger bar and platform through all the vibrations of the finger bar and platform.

Third, in combination with a harvesting machine having two driving and supporting wheels which carry the main frame, with a finger bar hinged to said frame, so as to rise and fall at its outer end above and below the plane on which the driving wheels run, the removable platform and self-raking attachments and the other reaping fixtures, which, when removed, convert the reaper into a mower.

Fourth, so combining a two-wheeled draft frame, a hinged platform, rake teeth, and reel bars, that the rake teeth and reel bars are wholly to one side of the draft frame, substantially as described.

Fifth, a finger beam of a combined reaper and mower hinged to and suspended below the draft frame by means of a jointed connection, which allows of its outer end rising and falling above and below the plane on which the driving wheels run, and by which its inner end can be raised or lowered to adapt the cutting apparatus for reaping or mowing, in com-

bination with an auxiliary suspending and bracing jointed or flexible connection which is adjustable, and will hold up and brace a grain platform at its inner side and in rear of the hinge of the finger beam when the machine is used as a reaper, and will brace the cutting apparatus while the machine is used as a mower, substantially as described.

Sixth, the combination in a two-wheel side draft combined reaping and mowing machine of a laterally projecting hinged cutting apparatus, which rises and falls at its outer end above and below the plane on which the driving wheels run, a platform for receiving the cut grain, and a toothed rake which discharges the cut crop in gavels from the platform at the inner side thereof.

Seventh, a harvesting machine, with its cutting apparatus hinged so as to be on one side of a two-wheeled draft frame, and so as to rise and fall at its outer end above and below the plane on which the drive wheels run, when such machine is constructed so as to be capable of serving either as a mower or as a combined reaper, mower, and self-raker, substantially as set forth.

Eighth, a harvester, with a two-wheel draft frame which has one of its wheels connected to the main axle by means of a spring pawl and a ratchet, or equivalent devices, which will allow and cause it automatically to become a loose or fast wheel on said axle, in backing the machine or turning it around corners, and with the shafts of its gearing for driving the sickle arranged below the main axle, with said axle and said gearing below its main frame and with its finger beam hinged to it in such a manner as to make it a front cut machine, and so that the outer end of said finger beam may rise and fall above and below the plane on which the driving wheels run, and provided with an auxiliary rear supporting brace attached to the platform or finger beam, so that the same is braced against the resistance of the crops as the machine moves forward, substantially as set forth.

Ninth, a front-cut harvesting machine which can be used either as a mower or as a self-raking reaper, such machine having a laterally projecting hinged cutting apparatus, and having a rake which discharges the cut crop in gavels from the inner side of the platform.

**2,784.**—GEORGE W. GREGORY, Watertown, N. Y.—*Pulley Attachment for Raising Weights*.—Patented August 14, 1866; antedated February 14, 1866; reissued October 22, 1867.

*Claim.*—First, the adjustable pulley support having one or more sockets, or their equivalents, by and through which the pulley support may be operated and changed from place to place, for the purpose set forth.

Second, an adjustable pulley support, provided with means for changing the same from place to place, and with means for supporting the pulley.

**2,785.**—HENRI L. STUART, New York, N. Y., assignee of C. M. WILLIAMS.—*Carburetted Gases*.—Patented January 8, 1867; reissued October 22, 1867.

*Claim.*—First, carburetted gases by mixing or combining with them the vapors of a volatile hydrocarbon liquid before it is introduced into the service mains for distribution, substantially as described.

Second, the devices and means herein shown and described for carburetted gases in the holder before its distribution to the service mains.

**2,786.**—GEORGE THOMPSON and HENRY MITCHELL, Trenton, N. J., assignees of A. W. JOHNSON and GEORGE THOMPSON.—*Permutation Lock*.—Patented May 21, 1867; reissued October 22, 1867.

*Claim.*—First, the notched disks or tumblers M, each having a tube O fixed to it, the outer end of which is provided with teeth to engage with similar teeth on the hubs or flanges *d* of the graduated rings Q, substantially as and for the purpose herein shown and described.

Second, attaching the rod or bolt R to the back plate of the lock by means of a nut T to facilitate the permutation of the index or opening letters, and also to more effectually preserve the connection of the ring Q with their respective tubes O.

**2,787.**—H. C. BERLIN and GEORGE H. JONES, New York, N. Y., assignees of THOMAS V. WAY-



**MOTH.—Envelope Machine.**—Patented September 25, 1867; reissued October 22, 1867.

*Claim.*—First, gumming the seal flaps of the blanks for envelopes at or about the same time with the lower or end flaps, after the blanks are placed in the machine and before they are folded, by mechanism substantially such as described, or any other suitable mechanism to produce the same effect, for the purposes set forth.

Second, the arrangement of a curved guide T, in combination with the table supporting the blanks, substantially as and for the purpose set forth.

Third, causing the seal flap while being folded to bear on one or more of the other folding wings, or on parts or projections of said wings, or any device or mechanism interposed between the seal and other flaps, and producing the same effect, substantially as and for the purposes set forth.

Fourth, the combination with mechanism, adapted to gum the seal and other flaps of envelope blanks, of a folding mechanism, so arranged and operating as to prevent the seal flap being brought in contact with the other flaps or parts of the blank and adhering thereto.

Fifth, the protecting lips *f*\*, in combination with the folding wings, constructed and operating substantially as and for the purposes set forth.

Sixth, the raised or projecting surface at or near the edge of the wing which folds the lower flap of the blank, substantially as and for the purposes set forth.

Seventh, the endless apron Q, with its radiating arms, in combination with a suitable gumming and folding mechanism, constructed and operating substantially as and for the purposes set forth.

Eighth, passing the endless apron Q at its receiving end over a square or polygonal shaft, substantially as and for the purpose set forth.

Ninth, in combination with the endless apron Q, the rail *o'*, or its equivalent, substantially as and for the purposes set forth.

Tenth, the combination with a suitable mechanism for gumming the flaps of envelopes and folding the envelope blanks of an endless apron, as described, or any equivalent device or mechanism for receiving the envelopes after they are folded, and moving or supporting the same, without compression, until the gum on the seal flaps is dried.

Eleventh, in combination with the endless apron Q, or its equivalent, the receiving box R and follower S, constructed and operating substantially as and for the purposes set forth.

Twelfth, the lever arm O, in combination with the carrying platform N, and a suitable die inserted in or attached to said lever or to the platform, or to both, substantially as and for the purposes set forth.

Thirteenth, the arrangement of dies *s* on the creasing plunger and on the folding table, or on either, substantially as and for the purpose set forth.

Fourteenth, the types *u*, arranged in an arm and operating in combination with the folding table and creasing plunger, substantially as and for the purposes set forth.

**2,788.—GEORGE MALLORY, Bridgeport, Conn., assignee to WILLIAM H. WHITE.—Fans and Parasols.**—Patented May 15, 1866; reissued October 22, 1867.

*Claim.*—The combination of the following instrumentalities, viz., the hoop handle and drawn cylindrical wrapper, substantially as hereinbefore set forth.

Also, the combination of the following instrumentalities, viz., the hoop, brace, and handle, substantially as hereinbefore set forth.

Also, the combination of the following instrumentalities, viz., the hoop handle, and joint between the handle and hoop, substantially as hereinbefore set forth.

Also, the combination of the following instrumentalities, viz., the hoop handle joint, and cover or wrapper, substantially as hereinbefore set forth.

Also, the combination of the following instrumentalities, viz., the hoop handle joint, and fastening, to hold the handle in its position, substantially as hereinbefore set forth.

Also, the combination of the following instrumentalities, viz., the hoop handle joint fastening, and cover, as hereinbefore set forth.

**2,789.—SAMUEL G. LEVIS, Kellyville, Pa.—Making Thick Paper.**—Patented January 14, 1854; reissued October 22, 1867.

*Claim.*—First, passing or carrying a sheet of paper pulp through or between the press rolls, and expressing the water therefrom between two endless felts, so arranged that the water may pass through the felts and run off freely in front of the rolls.

Second, running or operating two or more forming cylinders in connection with the press roll by means of or in combination with the two endless felts, each receiving its sheet of pulp from a separate forming cylinder, so arranged that the water passes through the felts and runs off at the ends of the rolls.

Third, the combination of the two forming cylinders C and D, the two endless felts E and H, and the two squeeze rollers F F', arranged and operating substantially as described.

**2,790.—ICHABOD W. DAWSON, Newark, N. J.—Mechanism for Stretching Leather.**—Patented June 25, 1867; reissued October 29, 1867.

*Claim.*—First, the combination of means for supporting the center of the hide, with means for stretching the same breadthwise over the said support, substantially as described.

Second, the combination of means for supporting the center of the hide, with means for stretching the same breadthwise and lengthwise over the said support, substantially as described.

**2,791.—ICHABOD W. DAWSON, Newark, N. J.—Stretching and Preparing Leather and Hides.**—Patented June 25, 1867; reissued October 29, 1867.

*Claim.*—The process, substantially as herein described, of stretching leather or hides.

**2,792.—GEORGE P. GORDON, Rahway, N. J.—Printing Press.**—Patented April 23, 1861; reissued October 29, 1867.

*Claim.*—First, such rocking platen, when a sliding motion shall be imparted to it bodily, and such platen shall turn upward and away from the form to receive the sheet to be printed, and downward or toward the form for the reception of any impression, whether such platen shall occupy the precise angle shown in receiving the sheet or not.

Second, after the face of the platen has been rocked down to a position parallel with the face of the form or types, for the purpose of presentation of the sheet to such form, carrying the platen in the parallel position to and from the form.

Third, a sliding rocking platen, having a direct movement to and from the bed, in combination with a bed, which shall be stationary at the time of giving an impression.

Fourth, the elongations or projections at the back of the platen, having upon them the lugs, or their equivalents, which fit into slides or grooves, or their equivalents, in combination with the sliding boxes, or their equivalent, which hold and carry the shaft upon which the platen rocks, for the purpose of causing the rocking platen to move in a direct line to and from the impression.

Fifth, attaching the connections directly to the ends of a shaft of a sliding rock platen, in combination with the cranks, substantially as shown, for the purpose fully described.

Sixth, combining with a sliding rocking platen a cam and roller, or their equivalent, to rock the platen up to receive the sheet to be printed.

Seventh, in combination with a sliding rocking platen, cam, and roller, the use or employment of the segment gear and rack, for the purposes fully described.

Eighth, combining the sheet-taking nippers with a rocking platen, for the purposes described.

Ninth, combining with a rocking platen the sheet-taking nippers and feed table, for the purposes specified.

Tenth, combining with a rocking platen the sheet-taking nippers, feed table, and sheet-holding grippers, for the purpose specified.

Eleventh, lifting the printed sheet, substantially as shown, for the purpose specified.

Twelfth, hinging the face of a rocking platen, beyond the angle at which the sheet is received upon it, to such an angle inclining toward the operator



that the printed sheet may be relieved or freely discharged from it by its own gravity.

**2,793.**—ANDREW PATTERSON, Birmingham, Pa.—*Manufacture of Bells*.—Patented March 5, 1867; reissued October 29, 1867.

*Claim.*—First, making seamless concave bells of single sheets of wrought or rolled steel by forming or shaping the metal between dies while sufficiently heated and so as to give an increasing thickness of metal at or toward the mouth of the bell, substantially as above described.

Second, wrought-steel seamless concave bells, constructed as hereinbefore described, as a new article of manufacture.

**2,794.**—JOSEPH GILBERT, Philadelphia, Pa.—*Fire-proof Ceiling and Roof*.—Patented May 14, 1867; reissued November 5, 1867.

*Claim.*—First, a ceiling composed of girders, corrugated plates, and socket bearers adapted to the said plates and supported by the girders, all substantially as described.

Second, in combination with the above, the bricks or blocks X X, applied substantially in the manner and for the purpose described.

**2,795.**—HENRY C. INGRAHAM, Tecumseh, Mich.—*Ditching Machine*.—Patented October 23, 1866; reissued November 5, 1867.

*Claim.*—First, the combination of the double flanged wheel A and belt Q, which, revolving in the same direction, will carry the earth loosened by the plow over the wheel, substantially as set forth.

Second, attaching the draft and also the plow frame to the axis of the wheel A, substantially as and for the purpose set forth.

Third, the combination of the double mold board plow H and single mold board J J with the belt Q and double flanged wheel B, substantially as set forth.

Fourth, hinging the main frame C to the tongue irons, substantially in the manner and for the purpose set forth.

Fifth, the arrangement of the double flanged wheel A and chute F, when the latter is so constructed as to serve also as a scraper for clearing the earth from the wheel, substantially as set forth.

Sixth, the arrangement of the segments M and N, frame V, and lever and catch H, substantially as set forth.

Seventh, the combination of the lever R, rod T, bent arm K, and wheel L, for the purpose of adjusting the depth of the plow H, substantially as set forth.

Eighth, the combination of the lever O and pawl attached to the frame C and segment U for raising the wheel A and the other mechanism, substantially as set forth.

Ninth, the combination of the double flanged wheel A, endless belt Q, tightening pulley z, and pulley I, arranged to operate substantially as set forth.

**2,796.**—PETER VOORHIS, New York, N. Y.—*Obstructing the Ice in Rivers and Harbors*.—Patented April 16, 1867; reissued November 5, 1867.

*Claim.*—The employment of removable ice obstructors, arranged to operate substantially as set forth.

**2,797.**—JOHN C. BIRDELL, South Bend, Ind.—*Machine for Bolting and Cleaning Clover Seed*.—Patented December 13, 1859; reissued November 12, 1867.

*Claim.*—First, the combination in a machine for threshing and hulling clover seed of the bolts A A' with the cranks D E E, guide rods F F, arms G G H H, and connecting rods B B', or their equivalents, in the manner and for the purpose set forth.

Second, the combination, in the machine above described, for threshing and hulling clover seed, the trough I with the endless conveyor J, in the manner and for the purposes specified.

**2,798.**—HIRAM L. WANZER, New York, N. Y.—*Pitman Connection for Harvesters*.—Patented July 2, 1867; reissued November 12, 1867.

*Claim.*—First, connecting the pitman B to the pitman wheel A of a harvester, by means of a round or polygonal pin a, having an eccentric projection d, and

made substantially as and for the purpose herein shown and described.

Second, the tapering pin a, when arranged in combination with the pin d, the washer e, and nut b, all made and operating substantially as and for the purpose herein shown and described.

Third, the pin i in combination with the packing k, all made and operating substantially as and for the purpose herein shown and described.

**2,799.**—PETER ANDREW, Cincinnati, Ohio.—*Elevated Railway*.—Patented June 25, 1861; reissued November 19, 1867.

*Claim.*—First, the construction and arrangement of a quadruple track upon a single row of pillars, provided with cross arms for suspending and supporting the track, substantially as set forth.

Second, the arrangement of the guide rails E E to obviate the necessity of using flanges on the car wheels, and prevent the cars being thrown from the track, in the manner and for the purpose herein set forth.

Third, the arrangement and combination of bars K and L, fulcrum piece M', connecting rod M, for holding a propelling rope firmly against groove of wheel.

Fourth, a succession of endless ropes for propelling street cars.

Fifth, the combination gear apparatus O P Q Q' Q'', as described, for attaching and detaching cars from the propelling ropes.

Sixth, the arrangement and combination of wheel S and band T, as described and for the purposes set forth.

Seventh, supporting the rails of the track by means of truss rods X, substantially as set forth, but the truss rods, except as a support for the rails of an elevated railway, are not claimed.

**2,800.**—CHARLES F. DAVIS, Auburn, N. Y.—*Harvester Rake*.—Patented May 22, 1866; reissued November 19, 1867.

*Claim.*—The combination of a stop lever L, controlled by the driver, with the hinged rake head of a reel rake, and so arranged that the driver can, at pleasure, by moving the stop lever out or in, change the heads from rakes to beaters, and from beaters to rakes, for the purpose of controlling the size of the gavels, substantially as set forth.

Also, in combination with the rake head of a combined rake and reel that is thrown out of action by the operator riding on the machine, a mechanism by which it is automatically thrown again into action, substantially as described and represented.

**2,801.**—HENRY S. FISHER, Newburg, Pa.—*Sealing Preserve Cans*.—Patented November 12, 1861; reissued November 19, 1867.

*Claim.*—First, a self-adhesive seal, which is prepared either in the form of a sheet, ring, disk, or piece of any required size or shape, and composed of paper which is thoroughly saturated and coated on its surface with a cement composed of the within described substances, or the respective equivalents thereof, substantially as described and for the purpose specified.

Second, a self-adhesive seal, which is composed of paper thoroughly saturated and coated with a rosin cement, and afterward subjected to considerable pressure, so as to adapt the seal for hermetically closing preserving vessels, substantially as described.

Third, a seal which is composed of paper and cement, in combination with a compressing and retaining device C, or its equivalent, substantially as and for the purposes described.

**2,802.**—ISAAC HICKS, Hartford, Wis.—*Stump Extractor*.—Patented November 3, 1863; reissued November 19, 1867.

*Claim.*—First, shaft B, pulley C, bar E, with its hanging fulcrum, ropes, or chains D D, strap F, and band I, in combination, substantially as described.

Second, frames J, and wheels o, in combination, substantially as described.

**2,803.**—HARVEY LAW, Chatham, N. Y.—*Machine for Cutting Paper*.—Patented September 16, 1856; reissued July 9, 1867; and again reissued November 19, 1867.

*Claim.*—The combination of the rising and falling



platform C and clamp frame E, operating to clamp the paper or books as the platform rises, and to unclamp the same as the platform descends, by means of single or double cams or toggles F F, having cranks G G connected with them, the pintles of which work in curved grooves, or otherwise actuated by any well known and mechanical device, substantially as and for the purpose herein shown and described.

**2,804.**—P. H. HUMES, Watson's Salt Creek, Ill., assignee of W. C. RENTGEN, Keokuk, Iowa.—*Hand Truck*.—Patented March 19, 1861; reissued November 19, 1867.

*Claim.*—The curved parts or ends *a a* of the truck, with or without the auxiliary wheels *b b*, in combination with the curved removable holding and stop bar D, made either of a single piece or divided at its extremity, substantially as and for the purpose set forth.

**2,805.**—LEWIS FRANCIS and CYRUS H. LOUTREL, New York, N. Y., assignees of LEWIS FRANCIS and FREDERICK W. LETMATE, same place.—*Composition for Inking Rollers, Pads, and other Printing Purposes*.—Patented June 21, 1864; reissued November 26, 1867.

*Claim.*—A composition, made substantially as described, for printing purposes.

**2,806.**—CHARLES A. HARPER, Rahway, N. J.—*Water Boiler*.—Patented July 2, 1867; antedated June 24, 1867; reissued November 26, 1867.

*Claim.*—In combination with a boiler A an annular water chamber C, connected therewith by pipes D D', and so constructed and arranged that the heat shall be applied entirely around the latter, and the water circulate through the same, substantially in the manner set forth.

**2,807.**—GILBERT HAWKES, Lynn, Mass.—*Manufacture of Boots and Shoes*.—Patented June 26, 1866; reissued November 26, 1867.

*Claim.*—First, an inner sole, made of a textile material, to be used either with or without a stiffening substance, as set forth.

Second, a strip B, of a textile or other suitable material, or its equivalent, when used as and for the purpose described.

Third, the combination of an inner sole A, formed of a textile material, with a strip B of any suitable material, as and for the purpose specified.

Fourth, the application to the lasting of boots and shoes of an inner sole of textile material, as described.

Fifth, the mode, substantially as set forth, of securing the uppers to the inner sole, in lasting boots or shoes, by stitching the former, not directly to the latter, but to a suitable supplementary material attached thereto.

**2,808.**—R. B. DUNN and JOHN C. FLINT, Bangor, assignees by mesne assignments of MOSES CHANDLER, East Corinth, Me.—*Horse Hoe*.—Patented January 14, 1862; reissued December 3, 1867.

*Claim.*—First, the employment of two shares converging towards their rear, and made capable of adjustment to or from each other, either at their front or rear, or both.

Second, attaching or jointing the forward ends of these shares to their supporting rods as that they may be turned and adjusted thereon as centers, more or less obliquely relatively to the beam.

Third, the means, substantially as described, for adjusting vertically the rear ends of the shares to vary the depth of their penetration into the earth.

Fourth, the combination with the shares of pivoted wings, extending rearwards therefrom.

Fifth, so connecting the wings to the shares as that they will partake of their vertical adjustments, and also admit of being thrown up out of action when not needed.

Sixth, a wing constructed with a slightly concave curvature on its under side, to round up the earth as the furrow is covered.

Seventh, supporting the shares upon bent rods capable of being adjusted laterally in the devices which hold them in position.

Eighth, supporting the shares, both at front and rear, upon such rods to admit of either end being adjusted relatively to the other.

Ninth, so supporting the shares by means of rods

and adjusting devices that they may be lowered or raised, either at their front ends or at their rear ends, at option or at both, substantially as shown and described.

Tenth, securing, adjustably, steadying the share-supporting rods to the beam by means of screw-threaded eyes or loops and nuts.

Eleventh, the adjustable and yielding cultivator blades, adapted to be lifted and thrown out of action when desired.

Twelfth, the means, substantially as described, for adjusting the cultivator blades and their supports to or from each other, without unfastening them from the bars to which they are secured.

Thirteenth, forming in one piece the cultivator blade support, and the coiled spring which sustains it, and admits of its various movements, substantially as described.

Fourteenth, the provision in the beam of a slot J, as and for the purpose described.

Fifteenth, the adjustable stay rod, as and for the purpose described.

Sixteenth, the combination with the stay rods which brace the shares of the slot in the beam, and means for firmly securing the rods in variable positions, substantially as described.

**2,809.**—DAVID J. MARVIN, Stockton, Cal.—*Harvesting Machine*.—Patented November 15, 1864; reissued December 3, 1867.

*Claim.*—First, in a combined header and thresher, so pivoting or hinging the cutter frame upon the main axle *a* that it can be moved longitudinally, and also raised or lowered at pleasure, substantially as and for the purpose specified.

Second, in a combined header and thresher, having its cutter frame mounted or hinged as above described, the combination and arrangement of the bar *a'*, posts *b' b'*, pulley *d'*, cord *c'*, and crank rod N, substantially as and for the purpose herein set forth.

Third, the arrangement of the sickle-plate *h*, aprons 2 and 3, corrugated feed roller B, threshing cylinder P, fan S, inclines *o p*, straw carrier D, screen E, conveyor F, and elevator G, substantially as described.

Fourth, in a combined heading and threshing machine, as above described, the arrangement of the lever A, swinging axle *a*, and gear wheels *b' Q*, for the purpose of throwing the threshing and cleaning mechanism into or out of gear, substantially in the manner specified.

**2,810.**—PHILIP H. KELLS, Adrian, Mich.—*Brick Machine*.—Patented March 19, 1867; reissued December 10, 1867.

*Claim.*—First, the combination of the annular mold bed B and the central hub or support C, substantially as described and represented.

Second, the adjustable wedge-shaped cut-off *d*, arranged and employed in the manner and for the purpose explained.

Third, the arrangement upon the mold wheel of the two pug mills on opposite portions substantially as described.

Fourth, an annular mold wheel provided with cogs or gear teeth upon its periphery and mounted upon a central hub or support, substantially as and for the purpose set forth.

**2,811.**—JOHN BAYLISS, New York, N. Y.—*Tuyere*.—Patented August 7, 1866; reissued December 17, 1867.

*Claim.*—A tuyere A, having a water chamber B provided with connecting water and steam pipes D and E, in combination with the air pipe G, air chamber I, and air pipe J, arranged together, and operating substantially as and for the purpose represented and described.

**2,812.**—R. B. DUNN and JOHN C. FLINT, Bangor, Me., assignees by mesne assignments of ALBION WEBB, same place.—*Horse Hoe Cultivator*.—Patented August 8, 1865; reissued December 17, 1867.

*Claim.*—First, securing the share to a plate in such manner as to be readily removed therefrom or secured thereto, substantially as described.

Second, the employment of teeth or cogs as a means of adjustment, and holding in position a movable blade, substantially as described.

Third, providing a wing or blade, and the part to



which it is connected, with a rib in one and a series of notches or grooves in the other, to set and hold the blade in position.

Fourth, in combination with such rib and notches, a bolt and nut, or their equivalents, to loosen and tighten the same, as described.

Fifth, supporting the forward ends of the share-supporting plate by means of screw-threaded rods entering screw-threaded eyes on the plate, to admit of lowering or raising the share, substantially as shown and described.

Sixth, providing the cross-bars with slots, or their equivalents, as and for the purpose described.

Seventh, providing the cross-bars with notches to receive the eyes of the loops, which secure the share-supporting rods in the desired positions.

Eighth, the curved support D, made of a single block, when constructed and applied as and for the purposes described.

**2,813.**—ELLIOTT P. GLEASON, New York, N. Y.—*Chimney Holder for Gas Burner*.—Patented November 13, 1866; reissued December 17, 1867.

*Claim.*—First, the plate or strip forming the spring *f*, bent and curved substantially as described.

Second, the spring *f* riveted to the arm *n*, substantially as set forth.

Third, the equalizing spring for chimney holders, constructed substantially as set forth.

**2,814.**—MARIETTE SMITH, Ithaca, N. Y., assignee by mesne assignments of GEORGE R. SMITH.—*Railway Switch*.—Patented July 20, 1858; reissued December 17, 1867.

*Claim.*—First, the described rack and pinion at the base of a perpendicular rotating or partially rotating shaft, when combined with a spring lever and a circle or segment of a circle, said lever being fixed at right angles to the said shaft, and playing on said circle or segment, and into slots in the same, and said segment or circle being horizontal.

Second, the above-named combination, when further combined with a signal lantern, which lantern revolves wholly or in part when adjusted to the top of said shaft, said lantern having different colored glasses, and revolving on an axis drawn perpendicularly through the center of said lantern.

Third, when in connection with a railroad switch and adapted thereunto, the construction and arrangement of the shaft *a a*, the hand lever *h*, and the segment or circle *g g*, as described.

Fourth, the arrangement and adaptation of the segment or circle, hand lever and shaft just named, to its frame, holding up the shaft *a a*, so that the shaft and hand lever shall revolve together, and the segment or circle be fixed or stationary about the shaft, as described.

Fifth, the construction of the segment *g g* with slots to receive the lever *h* at the places or points requisite for the switch changes, as described.

Sixth, the construction of the hand lever *h* so as to be self or readily operated by its spring at the just named places or points of switch-changes in the said segment, as described.

Seventh, the combination with the shaft *a a*, hand lever *h*, and segment or circle *g g*, of the rack and pinion *b c*, and rod *e e*, and changeable track or tracks, as described.

**2,815.**—I. N. STANLEY, Brooklyn, N. Y.—*Hydraulic Main of Gas Works*.—Patented August 7, 1866; reissued December 17, 1867.

*Claim.*—As an improvement in hydraulic mains for gas works, the combination with the main C of the external supply tubes D, cast with or made separately from and attached to the main, and communicating with the same below the water or fluid therein, substantially as and for the purpose herein set forth.

**2,816.**—W. W. STAPLES, Catskill, N. Y.—*Wash Boiler*.—Patented February 12, 1867; reissued December 17, 1867.

*Claim.*—First, in combination with a portable wash boiler, having a perforated partition or diaphragm E, made as described, one or more tubes or conduits D, arranged and operating substantially as hereinbefore set forth.

Second, the water space or chamber B in a portable wash boiler, provided with a perforated partition E,

made as described, and conduits D, made and operating in the manner and for the purposes hereinbefore set forth.

**2,817.**—A. B. SPROUT, Hughesville, Pa.—*Horse Hay Fork*.—Patented April 23, 1867; reissued December 17, 1867.

*Claim.*—First, providing the extreme penetrating point or points of a horse hay fork with a cutting edge or edges for cutting its way into the hay, said points being so constructed that they can be operated so as to catch and hold in the hay for elevating it, and be released at will from the hay for discharging it.

Second, the coniform points *f* and *g*, provided with cutting edges, and shoulders or hooks 6 and 7, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

**2,818.**—ARIEL B. SPROUT, Picture Rocks, Pa.—*Horse Hay Fork*.—Patented May 1, 1866; reissued December 17, 1867.

*Claim.*—First, combining in one implement a hay elevator and hay cutter, so constructed that, when used as an elevator, it will cut its way into the hay, and so operating that it will catch in the hay for elevating it, and then may be released at will from its hold in the hay for discharging it, substantially as described.

Second, the combination and arrangement of the bars A and B, provided with barbs and cutting edges at their lower extremities, and levers *n* and *w*, substantially as herein described and for the purpose set forth.

**2,819.**—PHINEAS SMITH, New York, N. Y., assignee of OLIVER G. BRADY.—*Skate*.—Patented September 23, 1862; reissued December 24, 1867.

*Claim.*—First, in skates, the side clamps J J, arranged near the toe of the skate, and the tightening means L, adapted to draw the same forcibly together, all combined and arranged as and for the purposes herein set forth.

Second, in skates, the set screws *k k*, arranged as specified, in combination with the tightening means L and side clamps J J, so as not only to allow the side clamps to be drawn forcibly together to seize the boot, but also to allow the foot to be adjusted, either centrally upon the skate or to any extent one side or the other, to suit the wearer, and be held firmly against shaking in any position, all as and for the purposes herein set forth.

Third, the arrangement of the shank piece D and heel plate B with the shank of the boot, runner A, and adjustable tightening hook E, as herein shown and described.

**2,820.**—HENRY G. TYER, Andover, Mass.—*Overshoe*.—Patented September 3, 1867; reissued December 24, 1867.

*Claim.*—A boot or shoe, constructed with an elastic gore or gores of vulcanizable material, when the said gore is inserted into the shoe before vulcanization and during the process of construction, and the whole completed by the vulcanization, substantially as set forth.

**2,821.**—HOBART G. ARNOLD, Rochester, N. Y.—*Window-sash Fastener*.—Patented October 15, 1867; antedated September 17, 1867; reissued December 31, 1867.

*Claim.*—A sash lock, composed of bolt H, tumbler G, and notched plate, the whole combined and arranged substantially as and for the purposes set forth.

**2,822.**—JAMES H. BRIGGS, Brooklyn, N. Y.—*Comb*.—Patented October 15, 1867; reissued December 31, 1867.

*Claim.*—The longitudinal flanges *b* on the metallic part B, constructed as described, and fitting over longitudinal shoulders *a*, in the part or parts A, as herein set forth, for the purpose specified.

**2,823.**—EZRA COLE, Fairfield, Mich.—*Buckle*.—Patented September 24, 1867; reissued December 31, 1867.

*Claim.*—The buckle, constructed as described, consisting of the enrvd frame A, having at one end the plate C provided with a downward projection or lug D, in combination with the bail E, whose pins F rest



and slide upon the upper edges of the curved frame A, as herein described, as and for the purpose specified.

**2,824.**—CHARLES F. JAURIET, Aurora, Ill., assignor to himself and A. I. AMBLER.—*Steam Generator*.—Patented February 27, 1866; reissued December 31, 1867.

*Claim.*—First, a water-bridge, placed within the fire box, constructed in the form of a semi-tube, as set forth, flanged and riveted to the flue sheet and side water legs, so as to afford an unobstructed communication with the back-water space and side water legs, said sheet being sustained by stay bolts, substantially as set forth.

Second, the combination of the vertical stay bolts C C and the through stay bolts I' I' with the semi-tube water bridge and the outer jacket of the fire box, substantially as shown and for the purpose set forth.

**2,825.**—C. F. JAURIET, Aurora, Ill., assignor to himself and A. I. AMBLER.—*Steam Generator*.—Patented February 27, 1866; reissued December 31, 1867.

*Claim.*—A coal-burning locomotive, constructed with the following elements, viz: a water bridge, constructed and applied substantially as shown, and with a series of air jets I I through the several sides of the fire box, located and limited in their location around the fire box above the fire and below the water bridge, substantially as shown.

**2,826.**—DE WITT C. MOWREY, Milford, Mass.—*Boot Crimper*.—Patented June 25, 1867; reissued December 31, 1867.

*Claim.*—The combination with the clasp and spreader, and the screw for operating the latter, of auxiliary or movable jaws, placed on each side of the spreader, and supported upon and depending from the said clasp, so as to be located and held at all times between the jaws of the same, in the manner described, so that when the spreader is lowered, the movable jaws shall approach each other and recede from the jaws of the clasps, as herein specified.

Also, the application of the auxiliary jaws to the clasp, by means substantially as described, viz, by the arms provided with ears, and by the slots having the supports arranged as set forth.

**2,827.**—WATSON PECK, Babcock's Grove, Ill.—*Apparatus for Cooling Milk*.—Patented April 23, 1867; reissued December 31, 1867.

*Claim.*—The combination of a pipe B, provided with a receiver C, or its equivalent, with a cooling vat A, arranged to operate substantially in the manner and for the purposes herein set forth.

**2,828.**—J. J. SAVAGE, Troy, N. Y.—*Cooking Stove*.—Patented February 12, 1867; reissued December 31, 1867.

*Claim.*—First, the location of a fuel doorway or feed mouth B of stove furnaces, substantially below

and forward of the combustion or flame chamber C thereof, in such immediate or contiguous position to the fire box A Y thereof as to admit of fresh fuel being fed thereinto, in manner substantially as herein before described for the purposes set forth.

Second, the extension of the fire box A forward of the combustion or flame chamber C of stove furnaces, and immediately under or contiguous to the aforesaid located fuel doorway B thereof, in manner substantially as herein described for the purposes set forth.

Third, a lever feeder F, substantially as described, when operated in combination with and through said located fuel doorway B of stove furnaces, in manner substantially as and for the purposes herein set forth.

Fourth, providing a feed lever F with a fulcrum hook e, or an equivalent therefor, when used in combination with a fulcrum ridge or bearing d, arranged on the edge of the aforesaid located fuel doorway B of stove furnaces, substantially as and for the purposes set forth.

Fifth, in combination with the front plate D of stove furnaces, a fire or guard plate E, when arranged in position above the aforesaid located fuel doorway B of the fire box thereof, and about opposite the combustion or flame chamber C, substantially as and for the purposes set forth.

Sixth, the arrangement of the front plate D of stove furnaces, in an inclined or slanting position, in combination with the aforesaid located fuel doorway B, such as to overhang the combustion or flame chamber C and fire box thereof, substantially as and for the purposes set forth.

Seventh, the combination of the aforesaid located fuel doorway B, fire box A Y, the combustion or flame chamber C, and the lever feeder F, as applied to stoves, to operate in manner substantially as and for the purposes herein described.

Eighth, the peculiar manner or method of feeding or introducing fresh fuel directly into the fire box of stove furnaces, by forming for its reception clear vacant room or places in, below, and between ignited fuel or live coke therein, by the conjoint means substantially of a feed aperture or doorway B, located as described, and of a feed lever F, or equivalents therefor, operating substantially as herein set forth for the aforesaid purposes.

**2,829.**—ANN JANE SERGEANT, Dayton, Ohio, administratrix of the estate of ISAAC A. SERGEANT, deceased, assignor to SYLVANUS WALKER, Newark, N. J.—*Clothes Wringer*.—Patented July 27, 1858; reissued December 31, 1867.

*Claim.*—First, the employment or use of a portable frame or yoke B, with uprights S S', or their equivalents, for supporting a clothes-wringing mechanism in position on one side of a common wash tub, for the purposes set forth.

Second, the application of an adjustable clamping device, when employed to attach a clothes wringer to one side only of a wash tub, substantially in the manner described and for the purposes set forth.

























